Page 6 Publishing's NEW

ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 69 - December/January 1994/5 £2.50

FOR THE ATARI CLASSIC

- ***TV BINGO***
  Forget the lottery, play for nothing!
- ***GETTING SORTED***
  Sort routines for your programs
- ***HANDLING PROBLEM TAPES***
  Don't chuck them away just yet

DAISY DOT - for beginners and advanced users

FOR THE ATARI ST

THE WORLD'S TOP DEMOS

MAKING MUSIC

SENSIBLE SOCCER

Possibly the best soccer game of all time

PLUS ... T-34 REVIEWED ... TURBO HELP ... THE TIPSTER ... AND A WHOLE HOST MORE

This issue's ....

Thanks

Les Ellingham puts it all together and fills up the gaps but the real thanks goes to the following who made this issue possible

Sandy Ellingham who takes care of all the office work

For their regular contributions

John S Davison **Stuart Murray**
Paul Rixon **Nic Bavington**
Ian Finlayson **Mark Stinson**
Allan J. Palmer **The Tipster**

For their contributions this issue

Andrew Guillaume **Kevin Cooke**
Dave Shakespeare **Ed Hall**
John van der Spoel **David Sargeant**
Daniel Baverstock **Mark Fenwick**
John Bunting

Special mentions to

Ann O'Driscoll *for a never ending supply of articles and continued support*

'8-bitter' *for the Christmas present at AMS, appreciated more than you will know*

Some of these folk have supported us from almost the beginning and without them we would not be here. Some are having articles published for the first time. All are to be thanked for sharing their enthusiasm with all who read New Atari User

Inspiration

Long time readers will know that it is impossible for me to get an issue together without a decent supply of music and many fine musicians make an unknowing contribution to each each issue of New Atari User. This issue the thanks for inspiration go mainly to Pink Floyd's The Division Bell (sorry Allan to get in before you!) and Mary Chapin Carpenter whose Stones In The Road is playing as I type this. This new CD from Mary Chapin Carpenter took a little longer to get into than others but turns out to be another cracker. I have just had to reverse skip The End of My Pirate Days because it is so excellent. The Division Bell was initially a disappointment but has grown to such an extent that it could be Pink Floyd's best. I write this the day after the TV showing of Pink Floyd's Earls Court concert which was simply the most stunning event I have ever witnessed. Listening on headphones with the lights off and a few feet away from the TV gave an astonishing taste of the real thing, but how I would have loved to have been there.

Also helping out a little this time was Nanci Griffith's Flyer, a lot more upbeat than usual with an excellent track featuring Mark Knopfler, and also a blast from the recent past from Jackson Browne.

HOW IT'S DONE

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, a HP Laserjet III, Citizen 124D printer, Philips CM8833 monitor, 130XE, a couple of 1050 disk drives, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles submitted on XL/XE disks are transferred across to the ST via TARITALK. Programs are coded on the XE and printed out directly for pasting in after the typesetting is completed. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. Each page is output directly from Fleet Street to a HP Laserjet III which produces finished pages exactly as you see them. All that is left is to drop in the listings and photos.

Well, it's not quite as easy as that but you get the idea!

CONTRIBUTIONS

Without contributions from its readers, NEW ATARI USER would not be possible. PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

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REGULARS

ST CORNER

The next issue of NEW ATARI USER is due to be published on 31st January 1995. Editorial copy date is 20th December 1994

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MAGAZINE ONLY

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DISK SUBSCRIPTION

A disk containing all of the 8-bit programs from each issue of NEW ATARI USER is available either separately or on subscription. Single price £2.95 per disk, a disk subscription saves you almost £8 a year. Subscription rates (6 issues)

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Editorial

'The more it changes, the more it stays the same'

From Nostradamus by Al Stewart

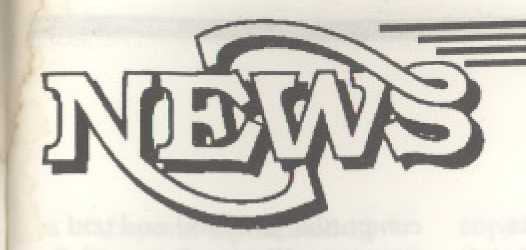
I have never been one to plan far ahead but once in a while the time comes when you have to try and judge what might happen in a couple of years time. Last issue I put out some feelers regarding the future style of the magazine and many of you responded with letters extending to one or two pages outlining your thoughts. It is thanks to these letters that I have taken the decision to change the format of the magazine now. I believe that in this new format NEW ATARI USER can continue at least to the the middle of 1996 and probably beyond. I hope that you will all support us for that long.

Most of the comments received were along the lines that it would be nice to continue as a conventional A4 size magazine but that the content and style were much more important. The comment most often made was that we should use a lower quality paper but, believe it or not, the glossy paper used in the past was the cheapest available! It is in fact cheaper than the paper used this time but changing the format allows us to make savings in other areas. Our previous printers did a splendid job cost wise but were set up to produce magazines in runs of tens (or hundreds) of thousands rather than in thousands. Of the total production cost the paper accounted for less than 20% with the remainder going in fixed set up costs that varied little with lower or higher print runs. Our new printer works on the opposite basis with the majority of the cost in the paper which does mean that if we need to print less it costs us less. That seems sensible to me!

The major concern expressed in going to an A5 format was that there would be less in each issue and that most magazines of this size are very difficult to read since they tend to start off as A4 and are then reduced in size for printing. I have been conscious of these points all along and I believe that any fears are unfounded. The point size and typeface I have used is exactly as before and by cutting out white space, reducing headlines and making long listings available on disk or on request, very little has been lost from the overall content. Looking at the first drafts I am quite pleased with the outcome and I hope that you will be also.

As I have said I believe this new format allows us a minimum of another 18 months of New Atari User but of course that depends on your support. We need your articles and programs but above all we need your subscriptions, so make sure you renew and encourage your friends to renew their subscriptions as well.

Les Ellingham



FREE MIDI TAPE

Derek Fern of Micro Discount has been exploring the Midi possibilities of the 130XE with a new product from Creative Labs called MIDI BLASTER.

MIDI BLASTER is a stand alone device that can be controlled by your 130XE. It will accept signals from any general midi source and can generate 128 instruments, 61 variations, 92 drums and 46 effects with up to 16 channels and 20 note polyphony. The unit can be hooked up to a 130XE with a Midimate interface and can de driven by software specially written by Hybrid Arts. The results are extremely interesting.

The device is not cheap but is well worth hearing if you are interested in exploring the Midi capabilities of the 130XE. Micro Discount have produced a demonstration tape with voice-over explaining the device and showing its impressive range and will be happy to send you a free copy of the tape if you send them a self addressed and stamped envelope (a jiffy bag is probably best) large enough to take an audio tape.

Contact Micro Discount at 265, Chester Road, Streetly, West Midlands B74 3EA

NEW DTP FOR XL/XE?

Recently received is a very neat looking print out from a page layout system under development from Qsystems. What makes this especially interesting to a large number of users is that it is tape based and for the first time opens up this type of application to users without a disk drive.

The software is called QPAGE HERALD and has the ability to mix graphics and text with many text effects and type sizes. Other features promised are a 40 page manual, over 25 icons, 10 fonts, over 20 typestyles, 8 borders, Turbo tutorial screens and more. At the time of our receiving the information Qsystems were just putting the finishing touches to the product and were looking for someone to help them market it.

This type of program has never before been available to tape users before so if are looking to expand the capabilities of your XL/XE this si one to look out for.

Qsystems can be contacted at Westoe, Ullingswick, Hereford HR1 3JG

STARFIGHTER JOYPAD

Game controllers are largely a matter of personal preference but the standard for the Atari has always been the joystick in its various guises. Those of you who have tried the Nintendo and Sega joypad controllers might like to know that a similar controller is now available for the Atari - both 8-bit and ST.

The Starfighter 1 from Quickshot is a comfortable joypad with a thumb controlled direction button and separate fire button which can be switched to Turbo mode or put into 'hands free' autofire. This sort of controller is ideally suited to fast action arcade games so if this is your forte you might like to treat yourself to a new joypad controller for Christmas.

Blitterchips in Stourbridge have given us one of these controllers to test out but there was not enough space in this issue for a full write up but we'll try and test it out for a full report next time. Initial tests indicate that this could be a great new controller for the gaming expert.

The recommended price is £9.99 and Blitterchips will send you one post free if you mention Page 6 with your order.

Blitterchips are at 115A Bridgnorth Road, Wollaston, Stourbridge, West Midlands, DY8 3NX and your cheque should be payable to K. Hughes. For further information give them a ring on their new telephone number - 01384 823060

Mailbag



It's been quite some time since I've sat down to compose a Mailbag column for New ATARI User. The difficulties experienced by Les during 1994, the temporary delays in publication coupled with the move of the Stafford PAGE 6 Office have resulted in a cessation of new letters arriving on my desk (which is 120 miles from Stafford!). Sandy has forwarded me the outstanding mail (what there is of it), so it looks like we've got a shorter column this issue....

Allan J. Palmer

PRINT SHOP LABELS

David Carney from Desborough, Northants has a problem when "...using the 'Print Shop Labels' program on Page 6 PD disk 85 - when printing the labels out, the printer feeds on a line so I get a broken printed icon which of course looks pretty damn awful. I have a SMM804 printer with a Graphix AT interface by XTEC to my 130XE. I have tried turning the dipswitch for the line feed off on the interface, but all I get is the printer not feeding the paper on. I believe I should be able to change a line in the program to rectify this. Can any of the readers assist me please?"

❢ *I think this problem has been answered before somewhere; can anyone help me remember?*

INK-JETS

M Tomlin from Basildon, Essex has a Commodore MPS 1270A ink-jet printer "...which works well with my Classic Atari via an 850 Interface. It prints out well all the graphics and inverse characters using a program from one of the Page 6 PD Utilities Disks. It works well with Daisy Dot, Dot Magic, Letterhead Designer and Fancy Writer. However, I was wondering if you know of a supply of ink for such a printer. I want to see if I can refill the ink cartridge with a hypodermic needle as replacing an ink-jet cartridge costs about £20! Any advice will be most welcome."

❢ *I don't know about the Commodore ink-jet that you've got Mr Tomlin, but it certainly is possible to refill ink-jet cartridges. I suspect your Commodore printer is a re-badged version of another manufacturer. You'll find these refills advertised in the PC or Acorn computer magazines. One sort that I've used successfully is produced by Snopake (the correction fluid manufacturers) - it's compatible with HP Desk Jet cartridges (the box lists about 25 compatible printers) and you get two refills in a box, each with their own 'needle', instructions, cloth and a plastic glove to help you keep clean. The price is about £12. One supplier I've dealt with is Dixon & Dixon, 35 Rokeby Drive, Kenton, Newcastle Upon Tyne NE3 4JY ('phone 091 285 3042).*

DATABASE DIFFICULTIES

From Muswell Hill, London N10, Ray Pawson asks for advice on "...Michael Jackson's MJDBASE database (from PAGE 6 issue 29) which I use on a regular basis to store my album collection. However, when I use 'Compact Database' from the utilities module, my data gets trashed. Fortunately, having learned the hard way I now have a backup of the data before attempting anything similar. Does anyone have any idea what's causing the problem? I'm using a standard 130XE with XF551 drives and DOS 2.5 although I may try to convert it to SpartaDOS X. The program has been adapted to use a RAMdisk as suggested by Andrew Stevens. Where are these people now, I wonder? Also, has anyone any idea how to get a header on each page and to alter the page length to swap between European standard A4 size paper and American sized paper? Not being a programmer, it's a bit beyond my limited IQ."

❢ *Hopefully, other MJDBASE users may be able to assist you Ray. However, it would obviously be of help if you explained what you meant by "trashed" - do you mean the records have vanished from the disk, or they are inaccessible? Sounds like the use of a sector editor program is called for to investigate what remains on the disk after you've run the 'Compact Database' utility. I've only had a brief opportunity to look at the listing back in issue 29, so am unclear yet as to what might be happening. I wonder if the RAMdisk mod may be the cause? Regarding the reformatting of the pages for printing, this should be possible by modification of the existing print routine - any volunteers?*

FEEDBACK

In another letter, Ray had the following comments on various past items:

"In issue 67, Kevin Cooke mentioned the lack of availability of 5 ¼" disk storage boxes. These can be obtained from your local branch of Rymans *[unfortunately our branch doesn't - Allan]*, or from Snap Computer Supplies ('phone 0703 45711). Snap also sells listing paper, printer ribbons and re-inking spray.

"I was interested in the review of the re-issued 'Swift Spreadsheet'. I too have a copy - of the original program that had a limited availability from Page 6. I find the constant referring to the Atari translation sheet a bit of a hassle. Why the original producers could not have issued an Atari manual beats me. Simple search and replace on a word processor could have effected most of the textual changes."

❢ *As I recall, 'Swift' was originally produced (in the U.K.!) by Audiogenic for the Commodore 8-bits - the Atari version had no obvious promotion in this country, in fact I first became aware of it when it was advertised in ANTIC magazine's Catalog section. I wonder if it sold in the States, and did it have an Atari manual?*

"On the subject of manuals, anyone remember 'B/Graph', published by Batteries Included in the mid 80s? It included a manual of about 150 pages. Impressive, until you realise that it's not much bigger than a Swan Vestas matchbox. Is it too much to have instruction manuals/ booklets of at least A5 size?

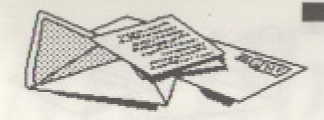
❢ *This problem with manual size is also found in 'PaperClip' - also produced by Batteries Included; but to be fair, I think the size isn't a problem, it's the binding - if the manuals had a ring binding on their top edge they would be more usable. The problem may in fact only be with the U.K. versions manufactured by AriolaSoft; I've seen a photograph of a PaperClip manual in an old issue of ANALOG, and the U.S. version is certainly ring bound!*

"Turning to KE-Soft of Germany, I notice from their catalogue they are asking for £5 for shipping if you pay for software by cash, an extra DM12 if you pay by Eurocheque and £15 by any other cheque. The extra charge of £5 for cash is reasonable, but I feel the other charges are a bit over the top. I will certainly think twice before buying software from Germany - I have never paid additional charges of that magnitude when buying software from the States."

❢ *Thanks for an interesting letter, Ray.*

L.A.C.E.

Carmel Andrews from London WC1 writes that he has recently "...joined L.A.C.E. (London Atari Computer Enthusiasts) having paid my £7 membership fee - it's the best thing I've done Atari-wise. My advice to London-based Atari enthusiasts is to join up. I met someone who had a U.K. modified 1200XL; he also knows of certain U.S. Atari OEM suppliers that will supply you kit versions of the 815 disk drive, all the 1200 series (standard, with speech chip, with built-in drives and/or built-in modem) or the 1450XL equivalents. This guy says that the owner of Best Electronics actually has the first two prototypes of the



1450XLD. If anyone wants to join L.A.C.E., the contact is:

Mr Roy Whitehead, 156A Swaby Road, Earlsfield, Wandsworth, London SW18

Sounds interesting Carmel, please keep us up-to-date. Perhaps other members of L.A.C.E. would care to submit correspondence and opinions? What benefits may be gained by Classic Atari enthusiasts outside of London?

I've also received another two letters from Carmel totalling 9 A4 sides of tightly hand-written views and opinions on matters Atari, primarily on Atari's marketing strategy (or lack of it). Thanks for the thoughts and comments, Carmel. Unfortunately, the time taken for me to transfer your letter to disk for inclusion in the column would not leave me much time to transfer other correspondence and the result would not fit in one Mailbag column without squeezing other people out. If you have a lengthy letter, submitting it on disk MAY assist in getting it included in Mailbag - I won't have to spend so long typing it in!. However, I believe it's important that Mailbag has a range of content. As a general comment to all letter writers, be succinct in your comments - that way we can fit more in and hopefully make things more varied. Les has given Mailbag the luxury of 4 pages usually, if we took up more then another part of the magazine would suffer - which articles or program listings would you like to see dropped? I suspect the answer is none. End of soapbox.

VIDEO CONNECTIONS

Further to Andrew McIntosh's question regarding connecting a video recorder to the XL/XE, Kevin Cooke of Exeter, Devon writes: "I have recently done this with success. Please note that the following information was supplied to me by Sid Berry, so any thanks should really go to him. First of all, it is no good trying to connect your video up via the aerial leads as the computer and video will cause interference with each other. You will need to build a cable to get a decent recording. One end plugs into the XL/XE monitor socket and the other into your video recorder's SCART socket, so you will require some audio type screened lead twin core, a 5 pin DIN male plug and a SCART plug (21 pin). The connections for the cable are:

XL/XE 4 to SCART 20
XL/XE 3 to SCART 2
XL/XE 2 to SCART 17 or 4
(sometimes pins 17 and 4 may have to be linked together).

You should find the plugs are already labelled with correct pin numbers when you buy them. When you have made the cable, you are ready to set everything up. No RF lead is required so you simply plug one end of the cable into your video's scart socket and the other into your computer's monitor socket. A lead should then come from your video's 'aerial out' socket into the back of your TV. Switch on your video's test signal and tune in a TV channel as described in your video manual. You should then be able to see the computer's picture when you switch this off and have the computer on. If your video operates like mine, you may also need to press a button to tell it that you want to take signals in through the scart socket rather than send them out. On my video's remote control, this button is called the 'TV/LINE' button. The picture may appear fuzzy when played back through this setup, but when your video is connected normally, it should appear OK."

As usual, PAGE 6/New ATARI User can accept no responsibility for individual's hardware modifications, however thank you for the contribution Kevin and perhaps you'd like to describe some of the uses that have been made of this facility? I know there's a software package called "Video Title Shop" - have you used this to add titles etc. to your home videos? Anybody got any other uses? Perhaps creating an educational or an advertising video? Let us hear about your ideas!

LIGHT-GUNS

From Bourne in Lincolnshire, Jason Kendall reports that he has "...recently got around to repairing a light-gun that I was given. I have played both 'Bug Hunt' and 'Operation Blood'. 'Bug Hunt' is great fun for a few people and 'Operation Blood' appear difficult but is technically very well done. Anyway, my question is: are there any other commercial or PD or type-in programs that use the light-gun?"

Derek Fern of Micro-Dicount had Atari's (expensive) ROM cartridge 'Crossbow' in his last catalogue, and I think there was also a game called 'Barnyard Blaster' (that was bundled with the Atari light-gun as a promotional package?). Can anybody suggest other PD or magazine efforts?

TRANSDISK IN THE USA

A new query about TransDisk IV this month, from Larry P. White of Mooreville, Indiana, U.S.A., "I have been unable to use TransDisk IV. Whenever I attempt to read a tape using it, a very abnormal pitched sound is produced which indicates "bad load". I presume this relates to the frequency difference of NTSC vs PAL systems (60 vs 50 Hz)? Has this problem cropped up before, and can it be fixed by changing a few bytes in the program with different frequency values?"

I don't think the NTSC/PAL frequency is the cause; if it was, we'd have trouble reading US cassettes on UK machines, wouldn't we? I assume you've been able to use the tapes normally. Does anyone have any suggestions?

DOWN UNDER CONTACT

A letter and disk arrived from Tolga Erok, P.O. Box 1150, Fremantle 6160, Western Australia, Australia (phone 09 4101948): "My name is Tolga and I own a Atari 130XE, with Supermon Rev II installed. I own 3 x 1050 drives with US doublers, 1 x XF551 drive, 850 interface and 100's of software items from old to new ('80 - '92). The reason for this letter is to know if you guys could give me a few contact numbers and addresses to not only swap software but also to keep in touch with other Atari Freax.

I've owned an Atari since 1982 and have not lost interest in it since. I only know how to program in BASIC as the ML is too messy to understand. I can provide a catalogue of my games and utilities to any other Atari freak willing to swap and to become pen pals even, because I do not want to give up on my 8-bit. I hope that I will hear from you guys soon, because there are hardly any Atari user's here in Australia. Anyway, thanks a lot, and any info would be much appreciated."

Well, don't just sit there - write to Tolga!

SUPERDOS QUERY

Perhaps Tolga might be able to help Robert de Letter of Zelzate, Belgium. Robert is having "...trouble with SuperDOS 5.0 and 5.1. Do you know the address of the author Mr Nicholls in Australia? SuperDOS automatically sets up the largest possible RAMdisk. Because I own an unexpanded 130XE, the largest possible RAMdisk is 512 sectors on my system. SuperDOS creates a 707 sector RAMdisk which is impossible, and I have trouble accessing the RAMdisk. I ordered SuperDOS 5.1 from the Page 6 PD Library - but same result! I disconnected the 130XE and connected one of my other XE's - still the same result! I want to know why, because I love SuperDOS - it's fully compatible with Atari DOS and you can format double-sided with the XF551, and the speed between the drives and the computer is extremely fast, especially if formatted with skewed sectors."

Not being a user of SuperDOS, I am unable to comment on this one. Are there any other SuperDOS aficionados who can help?



TOP TENS

Jason Kendall has sent in some of his Top Ten software lists for the Atari Classic - so far he's the only one who's responded to this suggestion back in issue 67. So to encourage more response, here are Jason's charts:

BEST GAMES

1. BoulderDash II
2. Bounty Bob Strikes Back
3. Rescue on Fractalus
4. The Great American Cross-Country Road Race
5. Archon I
6. Whistler's Brother
7. Zybex
8. World Karate Championship
9. F-15 Strike Eagle
10. Mediator

BEST SOUND/MUSIC

1. World Karate Championship
2. Master of the Lamps
3. Drol
4. Mediator
5. Whistler's Brother
6. War Hawk
7. Gyruss
8. Video Classics
9. Ultima III
10. Alternate Reality

BEST GRAPHICS

1. Master of the Lamps
2. Henry's House
3. Star Raiders II
4. World Karate Championship
5. Rescue on Fractalus
6. Alternate Reality
7. Mediator
8. Hardball
9. Dropzone
10. Drol

THE 10 WORST GAMES

1. Space Shuttle
2. Jump Jet
3. Wizard
4. Fire Bird
5. Frensis
6. Solo Flight
7. Rogue
8. The Comet Game
9. Cosmic Life
10. Maniac

Any other views of the best and worst for the Atari Classic?



Well, another Mailbag column comes to an end. Time for me to relax a bit - perhaps catch up on some videos or listen to some music. Les usually comments on CDs that he's been listening to, so perhaps it's about time that I mentioned some of the music that's been playing during the period that I've been putting this column together. As I write this, Disney's latest animated feature "The Lion King" has just premiered, and I've bought my daughters the soundtrack CD - I'm impressed by the score and the songs, coupled with the animation this will be another winner for the studio. I hear that Disney have an animated version of "The Hunchback of Notre Dame" in the works - with MeatLoaf as the voice of Quasimodo! I recently treated my wife to a copy of Pink Floyd's "Division Bell" when it appeared in a sale at the HMV store, and we've also been listening to the original cast recording of "Return to the Forbidden Planet", having had an enjoyable evening when the touring version of that musical show played locally. Great Balls of Fire! It's time to reverse the polarity!!!

See you next issue...

Air your views on all things Atari or help your fellow users with their queries - even ask for help yourself. Here's the address:

MAILBAG
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1TB

DISK BONUS

TUBE MANIA

by Andrew Guillaume

Tube Mania is a version of a fairly well known game that originated on the PC. The idea is to construct a length of tube to contain a leak in a huge storage tank. Only a certain length of continuous tubing is required for each level but this increases as the game progresses.

The intro screen gives you the opportunity to select either one or two players and to choose the skill level. If you do nothing at this stage the high score table will appear. This can be cleared by pressing RESET when the title screen appears. The high-score table is disk based so the disk should be left in the drive during play (you'll have to cut a notch on the New Atari User Issue disk or transfer the program to another disk).

Pressing the fire button will take you to the main screen where you will see the starting point of the leak or leaks. Player one is on the left (blue) and player 2 on the right (red). The cursor is moved with a joystick to the position where you want to place the next section of pipe. The pipe section currently available is shown at the top of the selection chart which also shows the next three pipes to come along. You do not have to place the sections in progressive order, sections can be placed anywhere and joined up when a suitable piece becomes available.

There are two gauges, that on the left showing the time remaining before the water starts to flow and that on the right showing the length of tube that has to be constructed for that level. You may carry on placing sections after the water has begun to flow but you must not go over a section with water in it as this will cause the water to escape. Cross sections carrying water over itself are acceptable though.

SCORING

PLACING A TUBE SEGMENT	0
PLACING TUBE OVER YOUR EXISTING TUBE	-30
PLACING TUBE OVER YOUR OPPONENT'S TUBE	+20
FOR EACH SEGMENT CONTAINING A LEAK	+100

Scores are shown at the foot of the screen. If you obtain a high-score by the end of your game, use the keyboard to enter a 10 character name, using DELETE if necessary and the spacebar for any excess characters. This will be saved to disk.

TUBE MANIA is written in compiled Turbo Basic and is only available on the New Atari User Issue 69 disk. Disk subscribers will have received their copy with the magazine but the disk can be ordered separately for £2.95 from PAGE 6, P.O. BOX 54, STAFFORD, ST16 1DR. Access or Visa orders can be accepted by telephone on 0785 213928

THE NAU ISSUE DISK OFTEN CONTAINS EXTRA BONUS PROGRAMS NOT MENTIONED IN THE MAGAZINE

HEY! HEY! it's The TIPSTER

Well I'm back again not quite the same person that left you last time as I have to undergo another metamorphosis to squeeze into a tinier space, but deep down it's still the same old me. Not only have I been squeezed to a smaller size in the mag but I have moved to a new world outside. The abode is different but it does have a rather nice Falcon throbbing away in the corner, loaded with enough fire-power to bring down SCUD's.

This issues Tipster is shorter than some but longer than any other (for The Tipster only frequents the best mag) not because I can't think of much to write but because I have only had a few letters in recent times. More about this later but until then let's move onto the first letter all the way from Miguel Letemplier of La Boule in France.

VIVE LE TIPS!

Miguel has a nice tips for **PLASTRON**, **LAST GUARDIAN** and one of my all time favourite games **DRACONUS** (apart from Zybex, that is!).

In **PLASTRON** if you type in *STEVE BAK* at the beginning of each level you will become invincible. The thing is, this cheat mode is a bit uneasy, but you'll get used to it.

During the intro screen of **THE LAST GUARDIAN**, typing in 18.8.67, which he assumes is the authors birthday, will provide you with full invincibility.

Finally we come to **DRACONUS**. During the intro screen press RESET then OPTION + SPACE. Release both keys, then press OPTION + HELP. This manipulation yields unlimited lives!

Cheers Miguel, I am particular interested and thankful for the last tip. In fact I am over the moon about it.

DR. JONES, I PRESUME?

A new tipper this time is O.J. Fernandes of Cardiff (Hi ya Juice!) and he has a few tips for a top PD game, **THE ADVENTURES OF DOCTOR JONES**, available from the Page 6 PD Library. The Keys for the game are **A**, **C**, **E** and **T**.

When obstructed by flashing treasure press the **A** key to blow it up.

To see the traps and exits press **C** key.

On a dark screen the torch is on the bottom right of the screen.

When you press the **T** key you get a limited light screen.

The following keys do not always work:-

The **E** key ends a life and the **S** key starts again.

You will need a lot of patience for this game but you will keep coming back for more. If you complete a dark screen you will have a light screen for the next screen. You also get another life for a flashing skull.

What now follows is a description of the first two screens and how to solve them.

SCREEN ONE

Right to first ladder. Go down. Right to last ladder. Go up. Go right. You will drop down so move quickly to the left. Go to first ladder on the left. Go down. Go right to get skull, go back left to ladder with skull above and right. Go up. Get skull. Back down ladder. Go left. You will drop down. Go right. Drop down. Go left and you will drop to next level.

SCREEN TWO

Go right to the end. You will drop down. Go left to the first ladder. Go down. Go to ladder on the left. Go up. Go left. you will drop down. Go right. Get skull. Go left. drop down. Then run fast as a spear will be behind you. If you pressed the C key at the beginning you will see a grey oblong. Drop onto it. Go left to ladder. Go up. Get skull on the left. Go back down. Go right. Go down ladder to the next screen. These tips will help to pass the other screen. You will soon find out which of the grey oblongs are traps.

An old campaigner rejoins the fold again in the shape of Kevin Cooke of Exeter, (welcome back Kev!). Kev's brought with him a few tips for a couple of games, ***ENIGMATIX*** and ***CROSSBOW***. Without more ado I'll ask him to take the stand.

CROSSBOW

In Crossbow there are a set of coloured paths that take you to different places and Kev has very kindly tabled their respective ends and beginnings and stops on route.

Hints for each location

DESERT: Fairly easy. Make sure you watch the floor for ants and scorpions but also keep a look out for the vultures. Snakes and rabbits are of no threat.

CAVERNS: Falling stalactites are the worst threat here. Don't worry too much about the other things.

VOLCANO: Shoot the resting rock straight away to make a bridge to cross the lava river. After that, just keep shooting the falling rock/lava.

JUNGLE: Don't worry about shooting any monkeys that are to the left of your friends - they cannot hit them with coconuts. Keep an eye on the plants as they often appear just as your friends are walking over them.

VILLAGE: Beware of the ghosts! One usually appears as a friend gets to the far right hand side of the screen so be ready. Also, try to shoot the witches before they get a chance to shoot at your friends.

RIVER: Be careful when your friends get to the far right hand side of the bridge. A boulder will almost always appear. Don't worry about the alligator, bird or slime monster.

DRAWBRIDGE: Shoot away the two ropes holding up the drawbridge when you start, then just keep your guns pointed at where the archers appear - you should hopefully shoot them before they shoot any arrows. Only move your gun away to shoot at Pterodactyls.

CASTLE HALL: The biggest worry here is the dragon. Shoot him before he spits fire and then he can't do any harm. Careful though as he will re-appear again. When you get to the trap door, shoot the statue's staff as quickly as possible. You will then have to contend with less arrows from the hole in the wall.

EVIL MASTER: Point your gun at his eyes and hold down the trigger!

ENIGMATIX

In ENIGMATIX if when using one of the blocks that's moves up when you bounce on it you find you can't control it, keep slowing up and slowing down by only using the fire button every now and again. By slowing down, says Kev, you're bouncing on the block more often and so moving it more quickly. Although this can save you valuable time, do not use too small a bounce, otherwise you may not move the block at all.

	BLUE	PURPLE	GREEN
START	N/A	VILLAGE	DESERT
DESERT	CAVERNS	VOLCANO	VILLAGE
VILLAGE	DESERT	VOLCANO	RIVER
CAVERNS	DRAWBRIDGE	DESERT	JUNGLE
VOLCANO	JUNGLE	RIVER	DESERT
RIVER	N/A	VOLCANO	JUNGLE
DRAWBRIDGE	N/A	CASTLE HALL	CAVERNS
JUNGLE	CAVERNS	DRAWBRIDGE	DESERT
CASTLE HALL	GOES TO EVIL MASTER WHEN COMPLETED		

Therefore , the quickest route to the Evil Master is:
Green, Blue, Blue, Purple - (Desert, Caverns, Drawbridge, Castle hall)

LIZARD

They're all coming out into the daylight today. Henry Knowles is back once more with a nice set of tips for **LIZARD** from Tiger Developments. He has listed below the Planets, icon (colour) and password for all the planets in the game.

PLANET	ICON (COLOUR)	PASSWORD
Lacertilla	Black	SHARK
Ophidia	White	WHALE
Anguis	Dark Grey	SLIME
Sauros	Light Grey	TIGER
Anura	Blue	EXCEL

It is handy to go to the planet which you are trying to complete last, so that you visit each planet as few times as possible.

He defines white as the same colour as the energy bar, and dark grey as the same colour as the status panel.

CALLING BRIAN HOWARTH!

I have in my possession two complete maps from Brian Howarth for The Golden Baton and Escape from Pulsar 7 but I can't read them Brian! Could you please write in with a map which I can decipher as I can't figure out how to read them. Sorry to be a pain but if I can't read them I can't publish them (Sorry!)

CALLING ALL CARS! BE ON THE LOOK OUT FOR GAMES TIPS FOR TIPSTER!!!

Yes I need more tips for the column so don't just let the likes of Kevin Cooke and Brian Howarth steal your fame just because you think that your tip or solution isn't good. Remember I read everything that arrives on my doormat and all of it gets published in one form or another. Don't let this column go down, send in the maps and tips for your favourite games. I would particularly like help with the following games.

Alley Cat, Bomb Fusion, Kennedy Approach, Raid over Moscow, Capt. Cosmo's Zoo, Astro Groover, Clowns & Balloons, Movie Maker, Movie Madness, Face Maker, Sesame Street, Skywriter, Dr. Suess, Invasion U.K., B.C.'s Quest for Tyres (most excellent!!), Caverns of Mars, Caverns of Khafka, Sidewinder, Chuckie Egg, Frogger, Mario Bros, Flak, Rally Speedway, Mankala, Typo Attack, Claim Jumper, Leggit, Up, Up & Away, Night Raiders, Kaboom, Pyramid Run, Sunday Skiing, Krazy Kritters, Savage Pond, Roulette, Nucleus, New York City, Chop Suey, Fire Chief, Kissin' Kousins, Hi-Jack, Superquake, Blackjack, Kingdom and finally Great American Road Race.

I ask specifically for the above games as they have been asked for by R. McGrath of Dublin to complete the TIPSTER index book that I am planning to compile.

Next issue there should be a complete map of Alternative Reality: The City and hopefully the maps from Brian Howarth that I didn't include this issue.

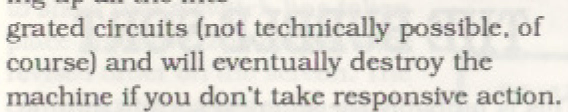
Remember to send all of your tips, hints and maps to keep this column going to:-

THE TIPSTER,
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

Review

INSIDE

INSIDE is a rather unusual game based on the internal workings of your favourite micro. The story centres on a terrible "virus" that has found its way into the electronics of your Atari. This nasty beast is breaking up all the integrated circuits (not technically possible, of course) and will eventually destroy the machine if you don't take responsive action.



Luckily, you are equipped with two exceedingly high-tech space(?) ships which you can dispatch to administer first aid on the faulty components. The playfield is divided into two horizontally scrollable landscapes (one per ship), each revealing the CPU, logic array, Antic, Pokey and other circuits that lurk inside the Atari's plastic casing. Obviously you'll need two joysticks to manoeuvre the craft - it's possible to play solo, but much easier with a friend's assistance.

What you have to do is fly the ships over the electronic parts and land on those you think are malfunctioning. A status line periodically reveals the name of a failed item, but there's no indication of where to locate it - so until you memorise the layout it's basically a case of trial and error. To add a touch of realism, you'll notice the effects of damage in other ways - for example, when the Pokey chip is playing up the game's soundtrack is suitably degraded. If a joystick fails to respond, you have to make do with the other one until you fix the offending PIA circuit.

- *Title:* **INSIDE**
- *Publisher:* **Spektra/ANG**
- *Supplier:* **Micro Discount**
- *Format:* **Disk**
- *Price:* **£6.95**

Whenever you land on a valid component, you're informed whether or not it's in need of repair. If it is, the screen display switches to a circuit diagram and a collection of spares. At this point you're asked to choose suitable replacement parts and place them in position on the diagram. Once the circuit has been restored to full strength, you can head off in search of the next casualty. There doesn't seem to be a specific way to 'win' but if you incur excessive damage the computer expires in a rather alarming fashion!

I'll certainly award Inside full points for originality and I've no complaints when it comes to visual and audio effects - the title page is particularly well done. As Nick Ross would say, the chances of your Atari failing are quite small - so don't have nightmares ...

reviewed by Paul Rixon

GETTING SORTED

While computers are very good at processing large amounts of information, programs often need **SORTING ROUTINES** to make that information accessible. "Sorting" just means putting the data in order, either numerically or alphabetically. In a **NUMERICAL** sort, high values come successively before or after low values; in an **ALPHABETICAL** sort, letters near the start of the alphabet are put either before or after those near the end. It's also possible to have an **ALPHANUMERIC** sort, which is an ordering system based on both letters and numbers - for instance, B2 might come before B5 but after A7.

You can use sorting routines in all types of programs - high score tables in games, names and addresses in databases, ordering the 'hands' in card games, and so on - and a number of different methods are available to do the ordering. In any sort routine, the two main operations are **COMPARISONS** and **EXCHANGES**. Individual routines differ, however, both with regard to the items being compared and the timing of the exchanges. This article takes an introductory look at two popular sorting methods - the Bubble and the Shell - along with a few variations on the core routines.

```
AM 130 REM  LISTING 1: BUBBLE SORT
QY 132 REM
RP 140 C=5:REM Number of items
RQ 150 DIM A(C):FOR N=1 TO C:READ NUM:A(N
   )=NUM:NEXT N
RT 160 DATA 4,5,2,3,1
RQ 180 GRAPHICS 0:? :? "BUBBLE SORT DEMO"
   :? "____________________":? :?
NF 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A(N);" ";:NEXT N:? :?
FI 200 SW=0
JI 210 FOR N=1 TO C-1
YW 220 IF A(N)<A(N+1) THEN 260
HY 230 B=A(N):A(N)=A(N+1):A(N+1)=B
FY 240 SW=1
EH 250 FOR NN=1 TO C:? A(NN);" ";:NEXT NN
   :?
IC 260 NEXT N
YE 270 IF SW=1 THEN 200
SZ 280 ? :? "SORTED LIST:   ";:FOR N=1 TO
    C:? A(N);" ";:NEXT N:?
```

THE BUBBLE SORT

This is probably the simplest sorting routine of all. In a bubble sort, the computer reads through the data comparing pairs of adjacent items at a time. If they are in the correct order they are left alone; if they are in the wrong order they are swapped around. The computer continues to compare pairs and make swaps until all the items are in the required order. In this way, items gradually "bubble up" to their rightful place - this is how the routine gets its name.

PROGRAM 1 uses a bubble sort to place a list of numbers in low-high order. The opening lines put the unsorted numbers into an array and print them on the screen. The sort routine starts by setting SW equal to 0 in LINE 200. SW is our swap flag and it records whether or not any swaps have taken place. LINE 210 starts a FOR .. NEXT loop to go through the items in the list. LINE 220 compares the first number with the second. If they are in the right order the program skips over the swap routine and goes to LINE 260. It then compares the next pair of items (the second and the third) and so on. LINES 230-250 only come into the picture when the numbers are in the wrong order. LINE 230 switches them around by

- putting the first into a temporary variable called B,
- moving the second up one place, and
- putting the first back into the array one place down.

LINE 240 sets the swap flag to 1 to show that a switch has taken place and LINE 250 displays the revised order on the screen. The computer then goes on to compare the next pair of numbers. The program gets to LINE 270 when all the numbers have been compared. If SW=1 it means that at least one swap has taken place so it goes through the list again comparing things in their new order. The process continues until there is a complete run through with no swaps. The sorted list is then displayed (LINE 280).

We can see exactly how the process works if we examine a small list of items. In the following ex-

by
Ann O'Driscoll

```
EE 130 REM  PROG 2: STRING BUBBLE SORT
QY 132 REM
SL 140 C=6:L=3:DIM A$(L*C),B$(L)
OT 150 FOR N=1 TO C:READ B$:A$(L*(N-1)+1)
   =B$:NEXT N
WM 160 DATA JAN,FEB,MAR,APR,MAY,JUN
WR 180 GRAPHICS 0:? :? "BUBBLE SORT DEMO
   II":? "______________________":? :?
NZ 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A$(L*(N-1)+1,L*N);" ";:NEXT N:? :?
FI 200 SW=0
JI 210 FOR N=1 TO C-1
OY 220 IF A$(L*(N-1)+1,L*N)<A$((L*N)+1,L*
   (N+1)) THEN 260
CV 230 B$=A$(L*(N-1)+1):A$(L*(N-1)+1,L*N)
   =A$((L*N)+1,L*(N+1)):A$((L*N)+1,L*(N+1
   ))=B$
FY 240 SW=1
DK 250 FOR NN=1 TO C:? A$(L*(NN-1)+1,L*NN
   );" ";:NEXT NN:?
IC 260 NEXT N
YE 270 IF SW=1 THEN 200
MP 280 ? :? "SORTED LIST:  ";:FOR N=1 TO
   C:? A$(L*(N-1)+1,L*N);" ";:NEXT N:?
```

```
EC 130 REM  LISTING 3: SHELL SORT
QY 132 REM
SK 140 C=8:REM Number of items
RQ 150 DIM A(C):FOR N=1 TO C:READ NUM:A(N
   )=NUM:NEXT N
BD 160 DATA 6,8,2,3,4,5,7,1
SR 180 GRAPHICS 0:? :? "SHELL SORT DEMO":
   ? "__________________":? :?
NF 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A(N);" ";:NEXT N:? :?
FM 195 GAP=C
SW 200 IF GAP<=1 THEN 280
LO 205 GAP=INT(GAP/2)
FK 210 SW=0
EE 215 FOR N=1 TO C-GAP
DU 220 IF A(N)<A(N+GAP) THEN 260
RL 230 B=A(N):A(N)=A(N+GAP):A(N+GAP)=B
FY 240 SW=1
EH 250 FOR NN=1 TO C:? A(NN);" ";:NEXT NN
   :?
IC 260 NEXT N
YK 270 IF SW=1 THEN 210
MU 275 GOTO 200
SZ 280 ? :? "SORTED LIST:   ";:FOR N=1 TO
    C:? A(N);" ";:NEXT N:?
```

```
KQ 130 REM  PROG 4: STRING SHELL SORT 
QY 132 REM
SL 140 C=6:L=3:DIM A$(L*C),B$(L)
OT 150 FOR N=1 TO C:READ B$:A$(L*(N-1)+1)
   =B$:NEXT N
WM 160 DATA JAN,FEB,MAR,APR,MAY,JUN
JZ 180 GRAPHICS 0:? :? "SHELL SORT DEMO I
   I":? "____________________________":? :?
NZ 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A$(L*(N-1)+1,L*N);" ";:NEXT N:? :?
FM 195 GAP=C
SW 200 IF GAP<=1 THEN 280
LO 205 GAP=INT(GAP/2)
FK 210 SW=0
EE 215 FOR N=1 TO C-GAP
CJ 220 P=L*(N-1)+1:Q=N*L:R=GAP*L
IY 225 IF A$(P,Q)<A$(P+R,Q+R) THEN 260
KH 230 B$=A$(P,Q):A$(P,Q)=A$(P+R,Q+R):A$(
   P+R,Q+R)=B$
FY 240 SW=1
UC 250 FOR NN=1 TO C:? A$(L*(NN-1)+1,L*(N
   N));" ";:NEXT NN:?
IC 260 NEXT N
YX 270 IF SW=1 THEN 210
MU 275 GOTO 200
QE 280 ? :? "SORTED LIST:    ";:FOR N=1 TO
    C:? A$(L*(N-1)+1,L*(N));" ";:NEXT N:?
```

```
BX 130 REM  PROG. 5: DELAYED BUBBLESORT 
QY 132 REM
RP 140 C=5:REM Number of items
RQ 150 DIM A(C):FOR N=1 TO C:READ NUM:A(N
   )=NUM:NEXT N
RT 160 DATA 4,5,2,3,1
XX 180 GRAPHICS 0:? :? "DELAYED BUBBLE SO
   RT":? "____________________________":? :?
NF 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A(N);" ";:NEXT N:? :?
JG 200 FOR N=1 TO C-1
NR 210 K=N
YY 220 FOR M=N+1 TO C
DS 230 IF A(M)<A(K) THEN K=M
HO 240 NEXT M
LT 250 IF N<>K THEN B=A(K):A(K)=A(N):A(N)
   =B
EJ 260 FOR NN=1 TO C:? A(NN);" ";:NEXT NN
   :?
IE 270 NEXT N
SZ 280 ? :? "SORTED LIST:    ";:FOR N=1 TO
    C:? A(N);" ";:NEXT N:?
```

ample, the series used in program 1 is being "bubble-sorted" into low/high order. The numbers in the brackets are those being compared each time. A new "round" of comparisons is generated if any swaps occurred in the preceding round.

```
ROUND 1: [4][5] 2  3  1  no change
          4 [5][2] 3  1  swap
          4  2 [5][3] 1  swap
          4  2  3 [5][1] swap
          4  2  3  1  5

ROUND 2: [4][2] 3  1  5  swap
          2 [4][3] 1  5  swap
          2  3 [4][1] 5  swap
          2  3  1 [4][5] no change

ROUND 3: [2][3] 1  4  5  no change
          2 [3][1] 4  5  swap
          2  1 [3][4] 5  no change
          2  1  3 [4][5] no change

ROUND 4: [2][1] 3  4  5  swap
          1 [2][3] 4  5  no change
          1  2 [3][4] 5  no change
          1  2  3 [4][5] no change

ROUND 5: [1][2] 3  4  5  no change
          1 [2][3] 4  5  no change
          1  2 [3][4] 5  no change
          1  2  3 [4][5] no change
```

Of course, bubble sorts work equally well for sorting string variables. In ***PROGRAM 2*** the first 6 months of the year are put into alphabetical order. The L in LINE 140 sets the length of each month at 3. The listing DIMensions A$ to hold all the months (12 x 3) and B$ to hold any month being exchanged. LINE 220 splits A$ into blocks of 3 (because there are 3 spaces per month) and compares each block with the adjacent one. LINE 230 does the exchanging, dealing in blocks of 3 characters at a time.

SHELL SORT

A disadvantage of bubble sorts is that they are quite slow if you have lots of data to be compared. For this reason, a popular alternative, called the Shell Sort, is often used if the list of items to be ordered is in any way sizeable. In its simplest form, the shell sort routine works by continually splitting the original items into halves and successively comparing, and swapping if appropriate, the values of the first item in each half. The process continues until all possible swaps are made. For instance, if you have 16 values in the list, the opening round compares the first with the 9th, the second with the 10th, and so on up to the 8th with the 16th. After any exchanges are made at this level the list is halved again. This time the first item is compared with the 5th, the second with the 6th, etc. up to the 12th with the 16th. The procedure continues with the gaps getting smaller and smaller each time.

Again, it might help to run through the routine manually. In this example we will "shell sort" 8 numbers into low/high order; the bracketed values are those being compared each time:

```
ROUND 1: [6] 8  2  3 [4] 5  7  1  swap
          4 [8] 2  3  6 [5] 7  1  swap
          4  5 [2] 3  6  8 [7] 1  no change
          4  5  2 [3] 6  8  7 [1] swap
          4  5  2  1  6  8  7  3
```

Because swaps occurred, the "Round 1" comparisons - 1st with 5th, 2nd with 6th, 3rd with 7th and 4th with 8th - are run through again. No further changes need to be made.

```
ROUND 2: [4] 5 [2] 1  6  8  7  3  swap
          2 [5] 4 [1] 6  8  7  3  swap
          2  1 [4] 5 [6] 8  7  3  no change
          2  1  4 [5] 6 [8] 7  3  no change
          2  1  4  5 [6] 8 [7] 3  no change
          2  1  4  5  6 [8] 7 [3] swap
          2  1  4  5  6  3  7  8
```

Because swaps occurred, the "Round 2" comparisons - 1st with 3rd, 2nd with 4th, and so on up to 6th with 8th - are repeated. This necessitates an exchange between the 4th and 6th items:

```
          2  1  4  3  6  5  7  8
ROUND 3: [2][1] 4  3  6  5  7  8  swap
          1 [2][4] 3  6  5  7  8  no change
          1  2 [4][3] 6  5  7  8  swap
          1  2  3 [4][6] 5  7  8  no change
          1  2  3  4 [6][5] 7  8  swap
          1  2  3  4  5 [6][7] 8  no change
          1  2  3  4  5  6 [7][8] no change
```

As swaps occurred, the "Round 3" comparisons of each item with the adjacent one are redone. No further changes are needed - Our list has been shell sorted in only 3 "rounds" because the incorrectly placed values have moved to their right slot much more quickly than if the adjacent blocks only had been compared.

PROGRAM 3 shell sorts the numbers in the above example: The variable GAP defines the size of the blocks into which the items will be split. This is initially set equal to the number of items by LINE 195 and then halved on each round of the sort by LINE 205. LINE 270 ensures that the "Round" is repeated until a complete swap free set of comparisons has been made. Sorting is complete when GAP falls below 2 (LINE 200) because each item has already been compared with its immediate neighbour. The new list is displayed by LINE 280.

PROGRAM 4 modifies the shell sort in listing 3 to deal with string variables - the changes as regards DIMensioning arrays are similar to those explained above for the string bubble sort. The variables P and Q in LINE 220 define the start and end of the first substring - A$(1,3), A$(4,6), etc. The variable R defines the offset which specifies which blocks are being compared - for instance in "Round 1" R=9 (3 X 3) so A$(1,3) is compared with A$(10,12), and so on (LINE 225).

continued

OTHER SORTS

A number of other sorting routines are available, some of which are variations on the two outlined above. The purpose of all of the modifications is to increase the speed of the sorting process. While speed may may not be a problem in the small examples given here, it can be a significant factor in say, a large database program.

The most popular amendment to the basic Shell Sort is to change the size of the initial gap and use a value other than half the list size. Values related to the natural log of the number of items have been found to be effective. The final two listings add a few lines to the standard Bubble Sort routine in PROGRAM 1 to produce two new sorting methods: ***PROGRAM 6*** shows a "Delayed Replacement" Sort. This compares pairs of items as in a "normal" bubble sort, but the swaps don't take place until the end of a round. "Low/high" sorts work by finding the lowest incorrectly placed item in each round and then exchanging it with the item that occupies its slot; high/low sorts do the same thing with the highest out of place item per round. The program here uses the numbers from the original bubble sort, with the nested loop at LINES 220-240 finding the lowest values per round. The whole process is much quicker, as the number of exchanges has been cut drastically:

ROUND 1: [4][5] 2 3 1 low = 4
[4] 5 [2] 3 new low = 2
4 5 [2][3] new low = 2
4 5 2 [3][1] new low = 1

RESULT: Exchange 1 and 4

ROUND 2: 1 [5][2] 3 4 low = 2
1 5 [2][3] 4 new low = 2
1 5 2 [3][4] new low = 2

RESULT: Exchange 2 and 5

ROUND 3: 1 2 [5][3] 4 low = 3
1 2 5 [3] 4] new low = 3

RESULT: Exchange 3 and 5

ROUND 4: 1 2 3 [5][4] low = 4

RESULT: Exchange 4 and 5

SORTED: 1 2 3 4 5

The last listing, PROGRAM 6, shows an "Insertion" sort. The idea here is that each item is taken in turn and put into its "right" place vis a vis the items which have been sorted already. For example, if we take our "4, 5, 2, 3, 1" sequence, the routine would look until it found something lower than 4 (the 2) and then place it relative to the 4 and 5 to give "2, 4, 5, 3, 1". The next unsorted number, the 3, would then be placed relative to the 2, 4 and 5 to give "2, 3, 4, 5, 1" and finally the unsorted 1 would be put in its rightful place at the top of the list. Again, we only need to modify a few lines of the previous program to set up the insertion routine: This time, the variable K in LINE 210 of the listing defines the next

```
YL 130 REM  PROG. 6: INSERTION SORT
QY 132 REM
SK 140 C=8:REM Number of items
RQ 150 DIM A(C):FOR N=1 TO C:READ NUM:A(N
   )=NUM:NEXT N
BD 160 DATA 6,8,2,3,4,5,7,1
OV 180 GRAPHICS 0:? :? "INSERTION SORT":?
    "____________________":? :?
NF 190 ? "UNSORTED LIST: ";:FOR N=1 TO C:
   ? A(N);" ";:NEXT N:? :?
JG 200 FOR N=1 TO C-1
BR 210 K=A(N+1)
EZ 215 FOR M=N TO 1 STEP -1
QV 220 IF K>=A(M) THEN POP :GOTO 240
ME 225 A(M+1)=A(M)
HM 230 NEXT M
JG 240 A(M+1)=K
EH 250 FOR NN=1 TO C:? A(NN);" ";:NEXT NN
   :?
IC 260 NEXT N
SZ 280 ? :? "SORTED LIST:    ";:FOR N=1 TO
    C:? A(N);" ";:NEXT N:?
```


GETTING SORTED continued

item to be compared in the UNSORTED array. The nested FOR .. NEXT loop beginning at LINE 215 puts K in place by working back from the item immediately before K to the start of the list. In this way each unsorted item is repositioned and the sorted portion expands by one each round.

Well, that about covers an introduction to sorting routines. If you want to delve into the topic a bit more, you might like to check out Disk #35 (UTILITIES 5) in the PAGE 6 Public Domain Library, which includes a program which compares a few sorting routines. The Shell sort module, which can be inserted in your own programs, also incorporates the modification mentioned above about relating the gap size to the log of the number. PD Library Disk #25 also has a fast sorting routine for fields in fixed length records. ●

NEW ATARI USER BINDERS

One or two readers have purchased the old style binders in advance and these will of course not be of use in our new format. If you have unused binders that you wish to return to us we will happily allow you a credit against the original purchase cost.

At the moment we have no plans to produce binders in the new format since minimum orders make the cost very high but we will let you know if we are able to offer a new binder in the future

The CLASSIC PD ZONE

Passing on the left-hand side is the Pudosian Barrier. On occasion, Zone Smugglers will attempt a crossing by propelling their tiny capsules through the Barriers' natural gases and electronic asteroids. Even if successful they are often picked up by random security patrols. All confiscated material is then shipped to Barrier Customs where it is analysed before despatch to Earth. Examples of this material can be found below.

PUZZLED NO MORE

WORD SEARCH is an interesting utility which will help you find those elusive words in wordsearch puzzles. A grid of up to 30 x 30 can be searched in four different ways, allowing the completion of even the most complex wordsearch in no time whatsoever.

Word Search will automatically run in either Atari BASIC or Turbo BASIC. Full documentation is included on the disk along with an excellent demo option to get you started. This demo shows all four search modes in operation.

'Single' is the basic search mode which finds single words hidden in any of eight directions. The computer searches using the standard pattern, i.e. examines each row of characters until the first letter is found. It then checks the subsequent letters in all eight directions to see if it is the word you are looking for. The computer performs this task quickly and can complete a whole wordsearch in a matter of seconds. The next search mode is 'No Vowels'. It is similar to the single option but all vowels are removed from the grid.

'Residue' is a very handy mode which allows the input of a word list before searching begins. Each word is then shown one by one, with all remaining visible in the grid. The final search mode is 'Nines'. This allows you to search for a nine-letter word hidden in the grid as a 3 x 3 square. After the computer has found and displayed a word (or words) you are shown a sub-menu of options from which you can continue, change the on-screen colours, edit the grid, view the grid or finish.

I enjoyed using Word Search. It is a unique piece of software which the author has put a lot of work into. It is very easy to use and completely error-trapped with on-screen prompts to assist you should you make a mistake. My only qualm is that if you are into wordsearch puzzles in a big way you probably won't see the point of using a computer to solve them. However, Word Search will certainly prove useful for that competition in your local newspaper or if you find yourself stuck with a large grid puzzle. You know that feeling when you've closely examined the grid line by line and you still can't find the word! Word Search will then come into its own.

A unique and enjoyable piece of software which, although having perhaps little practical use, is definitely worth checking out. Originality counts for a lot in my book (or wordsearch).

CLASSIC PD ZONE RATING: 80%

with Stuart Murray as your Tour Guide

SCRAMBLE REVISITED

Scramble was a popular arcade coin-op from the early 1980s. It was a horizontally scrolling shoot-em-up in which you had to bomb fuel pods and avoid enemy fire. Airstrike II by English Software is probably the best known clone on the Atari 8-bit.

EARTH 2500 is a PD version of Scramble, although it is heavily based on the English Software title. The concept is simple: travel as far as you can, blast everything in your way and keep your fuel level high. Run out of fuel and you crash to the ground.

After a colourful title screen you are warped to Sector 1. It takes about ten seconds of disk access until you find yourself travelling in a small spacecraft (which looks to have been constructed from yellow Lego) over a rocky terrain. You don't have many friends in this sector! Tanks fire at you from the ground and missiles attack you in the air. Things can get a little hot under the collar if you find yourself caught in the crossfire! To assist you in the battle your ship has two weapons. You can fire missiles from the front or drop bombs from below. You drop bombs by pressing the joystick button and moving left. You soon get used to this system but, like Airstrike II, it can be a little awkward in tight areas.

At the top of the screen is your fuel-line. It doesn't take long to reach critical so you must seek out fuel pods. These are often placed strategically behind rock formations, trees or buildings. A direct hit will boost your fuel level and allow you to continue on. There are two halves to Sector 1, with a marked increase in difficulty for the second (including multiple missile attacks!). There are a total of five sectors which, if the first two are anything to go by, will take quite some time to complete! Added to the hostilities are subterranean caverns, narrow passageways, steep climbs, falling rocks, laser fields, etc.

Earth 2500 has the feel of a game by Cosmi. The multi-coloured title screens and small blocky graphics give it the appearance of a 1982 commercial release. As a public domain release it is not bad and will keep you blasting for a while.

There are some criticisms. Each sector loads from disk so you must wait ten seconds before every play. Also, there is a rather annoying bug in the program which occasionally causes your spacecraft to explode at the beginning of a sector. The game is hard enough to play without having one life stripped away from you at the beginning! In fact, Earth 2500 is just too difficult too early on. By the time you reach the second half of Sector 2 you'll see what I mean. It's a killer! Still, there is an addictive quality which tempts you back for more.

Earth 2500 is an average arcade game. Nothing over-spectacular but very challenging and reasonably addictive. However, Airstrike II it's not.

CLASSIC PD ZONE RATING : 62%

BACK TO SCHOOL...

TANK MATH is an old program which still has a lot to offer. Having failed to make it onto our educational mission last time, I thought I'd include a quick review now. So if you are still looking for educational software, read on.

During a reasonably impressive title sequence you are informed by animated tank-fire that Tank Math will help you to add, subtract, multiply and divide. The concept is simple and yet very effective. You answer twelve mathematical questions by entering them on your Atari keyboard. You can choose addition, subtraction, multiplication, division or a combination of the four. There is also a bonus Roman numeral quiz.

Before starting the program you can select the mathematical options and set the timer limit (5-45 seconds per question). The selection of difficulty levels is disabled in this sample version (see below for details of shareware

registration). The level is set to 4 for subtraction and 2 for the others. Press Start and you're away. The main screen is well designed with a large tank at the bottom right and five small boxes opposite. These boxes display the amount of wrong answers remaining. In other words, make a mistake and the tank will blast a box! Also displayed at the bottom of the screen is the current level and the amount of correct answers given.

The question to be answered appears in large numbers at the centre of the screen. You must then enter the correct answer before the timer runs out. If you answer correctly, the tank blasts you onto your next question. Answer incorrectly (or run out of time) and you lose one of your remaining lives. A Tutor program then comes into operation and shows you the correct answer. This was very good. The Roman Numeral Quiz is quite entertaining. You must convert decimal numbers to Roman numerals. If you answer incorrectly the Tutor shows you a conversion table and gives you the correct answer.

Overall, Tank Math is a useful educational program. It will be particularly beneficial for children between the ages of 5 and 9. The Shareware registration fee is $10. You'll then receive the complete version which has twelve changeable difficulty levels. You also get an 8-page manual.

CLASSIC PD ZONE RATING: 71%

If you now look to the right you will see a strange object floating aimlessly through the Zone. Some refer to this object as "the nameless traveller"; others simply call it Atari Corp's latest Director of Marketing. Strange indeed.

Until next time, boot those floppies! 5.25's forever!

This issue's reviews have been:

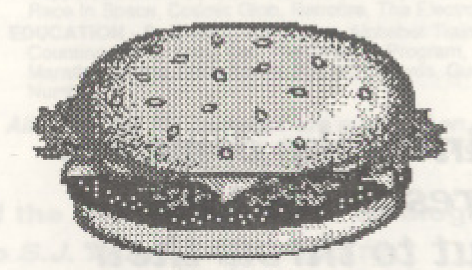
DISK 221 - WORDSEARCH SOLVER

DISK 229 - EARTH 2500

DISK 139 - TANK MATHS

WAITER MINIT

A non-violent game by Dave Shakespeare based loosely on Activision's Pressure Cooker



You probably thought that waiting tables was going to be an easy way to earn a few bob for Christmas but by the time you have been in and out of that kitchen a few dozen times and messed up a few orders, you'll be beginning to wish you had thought of something easier - like bricklaying!

The game starts with just one customer who will order something simple and you must guide your waiter into the kitchen to collect the food and drink. When you get into the kitchen you take the waiter half way across and then the chef will start throwing various items from the menu at you. You have to remember what the customer has ordered and catch the relevant items by simply standing in their path. Unwanted items must be returned by standing in their way and pressing the fire button. If you collect an incorrect item the only way to get rid of it is to exit the kitchen into the restaurant and then re-enter collecting one 'boo-boo' in the process.

When you have collected the total order you must exit the kitchen and deliver the order to the correct table by touching the number on the table. If you go to the wrong table you will collect another 'boo-boo'.

Points are scored for orders correctly delivered and are deducted if a thrown item in the kitchen is neither caught or rejected and hits the wall.

The game starts with one table and one item on the order and the number of items ordered increases after each correct delivery. When four items have been completed the number of tables increases up to a maximum of four with items ordered again increasing from one to four. Just try remembering sixteen items in one go, and remember these customers don't even give tips!

A high-score facility is included with the best scorer entering their initials.

THE LISTING

WAITER MINIT is included on this issue's disk ready to run. If you would like to type in the listing (it's quite long!), a printed copy can be obtained free of charge from New Atari User. Just ask for a copy from the usual address.

Hints & Tips

HANDLING PROBLEM TAPES

Kevin Cooke comes to the rescue of those about to throw their recorder in the bin!

As far as I know, there are six ways that you may get a cassette to load. Many people will already know these, but there are still people that don't. If the cassette has any instructions, ALWAYS follow what they say before trying anything else. You could save yourself a lot of time. If the tape still doesn't want to load though, there are other ways that you can try. Below is a list of all possible ways to get to load your cassette.

1. HOLDING DOWN START AND OPTION WHILE TURNING ON THE COMPUTER

This method is one of the most common ways to load a cassette. As far as I know, the START key simply tells the computer that you want to load a cassette. The OPTION key then disables Basic, so if you are sure the cassette game requires Basic, don't use this method. If you see the 'self memory test' screen while loading a cassette, it could be that you do need Basic (in which case, try the method below).

2. HOLDING DOWN START WHILE TURNING ON THE COMPUTER

This method works in the same way as above but does not disable Basic. Most commercial games will probably not require Basic, and getting BOOT ERROR appear on your screen can be a sign of this (in which case, try the method above).

3. TURNING THE COMPUTER ON AND TYPING ENTER "C:"

This method of loading will load games that were saved to the tape with the LIST "C:" command. This method is most commonly used on Public Domain game tapes but is also used on some very early commercial games.

4. TURNING ON THE COMPUTER AND TYPING CLOAD

This command will reload programs that were saved with the CSAVE command. It is quite rare to find this command being needed to load commercial games, but some of the older ones may need to be loaded in this way (especially some of the older Atari games such as THE LONE RAIDER and HANGMAN).

5. TRANSFERRING THE PROGRAM TO ANOTHER TAPE

If your cassette isn't loading, try looking at the actual tape at the point when the computer stops loading it successfully. If the tape looks bumpy, or the edges are ragged, it could be that it is faulty. If this happens, you could try transferring the game to another cassette (use the tape to tape dubbing option which is now on most new stereos). You may then find that the program will load from your new cassette. Don't ask me why this method works (surely if the computer can't read the information from a tape, the stereo won't be able to make a copy with perfect information either?), but it occasionally does.

6. TRANSFERRING TO DISK

If the cassette won't load, you could try putting the program onto a disk with the aid of TRANSDISK or HOWFEN DOS (obviously you will need a disk drive to use this method, so cassette only users could skip this section). This works surprisingly often, as I have found to my advantage. One example of my success with this method is with KICK OFF. The cassette kept stopping at the point where I later found it should load in a loading screen. I transferred the program to disk using TRANSDISK, and it loaded successfully first time.

These are all of the ways that I have got a cassette to load, although there are two more things you can do to get them to work. First of all, you can fast forward the tape leader so that the brown tape with the information is in view. Secondly, you can try all of these methods on BOTH sides of the cassette, as most have the program recorded on both sides.

Finally, it could be your equipment that is at fault. Try making sure that everything is connected to your computer properly, and try testing your computers memory using the built in self memory test. If you suspect that it is your cassette recorder that is at fault, try to test it on someone else's system. ●

EASY RUNNING

Many type-in machine code listings still require Basic to load somewhat defeating the reason for writing in machine code. Now, thanks to John van der Spoel you can transfer your listings to self-running binary files that can be loaded without Basic

Through the years there have been many, many machine code programs published in PAGE 6 and in NEW ATARI USER. In lots of issues a type-in listing, many written by Bill Halsall, can be found. Just think of Ace Dribbler and the Road Hogs, Hot Rod Raider, Indian Gold, Double Agents, and Skirmish, to mention a few.

Although all of these games are 100 % machine code programs, Basic is still needed to start them up. Neither DOS 2.0 nor DOS 2.5 will load these machine code programs because they are so called object code files (extension .OBJ), generated when the Basic listing is run. This is because an object code file has no header that can be handled by DOS. When you try to load such a file with option L of the DOS menu, DOS will simply answer - Bad load file.

Not all of the listings in PAGE 6/NEW ATARI USER generate object code files, there are exceptions. Some listings of machine code games create binary files (extension .COM), that can be loaded using DOS. For instance: Hot Blocks, Star Rider, Heavy Metal and a few more. These files will load much faster, especially when a menu program is used.

Using a Basic program to load and run object code files, will always take far more time than using a machine code menu program, which runs binary files in DOS format. Using a Basic loader means in the first place, that you should boot your computer with Basic enabled. This will take about 11 seconds using a standard Atari disk drive, because DOS has to be loaded before the READY prompt appears.

If you are using the Basic loader as an AUTORUN.SYS file the machine code game will load and run automatically after booting your computer, but there is one minor point : only one AUTORUN.SYS file can be placed on a disk. In this way every disk can only contain one machine code game, which is a rather expensive way to store your type-in games. Besides, the AUTORUN.SYS file itself also takes about one or two seconds to load, so the whole action takes 12 or 13 seconds before the loading of your machine code game actually begins.

If you prefer to type RUN "D:FILENAME.BAS" to start the Basic loader you can save several object code files (and Basic loaders) to one disk, but it takes even more time before the loading of your game can actually start, assuming you know all the different names of the Basic loaders on your disk. If not, you even have to call the DOS menu to have a look at the disk directory, or you have to use a Basic menu program (which again must be loaded) that handles Basic loaders. Again time, time, time!

THE BINARY FILE IN DOS FORMAT

Of course there is an easier way to get fast access to your machine code games. That is by creating real binary files in DOS format from your object code files and loading and running them from a machine code menu that doesn't need Basic or DOS to run your files. Only one single button has to be hit on your keyboard to load the game of your choice from disk. More about such a menu program later on.

Probably you will say - this is all very well but how are binary files created? Well, before we have a closer look at these kind of files, some observations must be made.

This article won't give a full description, but it will tell you the main principals which are necessary to create binary files from the object code files that were published in Page 6/New Atari User as type-in listings. Further the article is limited to disk users, although binary files also can be created using a tape recorder.

Finally the reader is presumed to have some basic knowledge of hexadecimal notation.

A binary file in DOS format is a full machine code program, which can be run by your XL/XE system directly after the loading process. As already mentioned, binary files can be loaded by DOS, using option L. They can also be created by DOS, using option K, but to use this option you need to know some major information about the file to be created. Of course there has to be an machine code program in memory and you have to know where in memory it is stored. This means you have to know the first and the last address of the data in memory. The first address is called the Start address or Load address and the last address is called the End address. Moreover you have to know the Run address, that is the address where the program actually starts to run immediately after being loaded.

DOS needs to know these addresses, otherwise your program in memory can't be stored on disk to be replaced in exactly the same part of memory later on. To tell DOS where in memory a file from disk should be loaded, the binary file has a so called "header" of six bytes which is created by DOS when a file is saved to disk. This header is as follows :

Byte no.	Contents of Byte	Meaning
00 01	FF FF	This is a binary file
02 03	.. ..	Start address in HEX (twisted)
04 05	.. ..	End address in HEX (twisted)

These six bytes are followed by the data

16 OBJECT CODE FILES TO TRANSFER!

As stated in the main article you need to know the addresses of each game you have typed in. You don't have to figure them out yourself, here they are for you.

ISSUE	PROGRAM	START	END	RUN
17	SHOOTING GALLERY	3500	3F64	3900
19	SECTOR10	2000	3EA0	2000
35	REFLEX	2000	2600	2028
36	HEADBANGER	2000	2700	2028
37	BLASTCOM	6000	69AA	6000
38	THE PODZ	2006	2B00	2028
39	MOUSE PARTY	2000	2700	2028
41	SNAKES ALIVE!	2000	2E00	2028
42	HOT ROD RAIDER	2000	2D00	2028
43	SKIRMISH	2000	2B00	2028
44	GREEN FINGERS	2006	3600	2028
47	ACE DRIBBLER	2000	2F00	2028
52	BAT PACK	2000	3200	2028
54	INDIAN GOLD	2000	3A00	2028
57	DOUBLE AGENTS	1FFD	38A0	2025
62	CROOKED HOUSE	2000	3E00	2028

Note that all address numbers are in hexadecimal notation!

bytes of your program. The first program byte is stored in the Start address. When the last program byte is stored in the End address, a new header tells DOS to store the Run address. The Run address is always stored in 736/737 ($02E0/$02E1). The program will start running at the address stored in addresses 736/737.

So if you want to create binary files, the procedure is as follows:

- type in the machine code listing of the game
- save a copy to disk (disk 1)
- prepare a freshly formatted disk (disk 2). Note: if you only have 64K don't use a freshly formatted disk but save the DOS files and MEM.SAV to the disk with your Basic files on (disk 1)
- boot up your machine in Basic
- load the Basic loader but don't run it!
- change the last line as follows : CLOSE #1:STOP (drop the USR command in this line)
- now run the loader program
- the machine code program will be stored in memory, but won't be run
- when the program has stopped, don't switch off or reboot, but go to DOS (64 KB users should leave disk 1 in their drive)
- insert the freshly formatted disk (not 64KB users)
- choose K in the DOS menu
- type the name of the file, followed by the Start address, the End address and the Run address
- note that filename and addresses must be separated by one comma, but the End address and Run address must be separated by two comma's!
- now press Return to create the file

In this way you can save as many files to one disk as you want, until the disk is full.

THE MENU PROGRAM

Page 6 library PD Disk #92 contains lots of menu programs which are suitable to load binary files. I prefer the program "**NDOS CONVERTER**" written by S. Baucke. This program is not on the disk mentioned, but it is distributed by Pokey's Magazine (issue #19 - 1992). You will find it on this month's Issue Disk of PAGE 6/NEW ATARI USER.

The main advantages of NDOS CONVERTER are:

- it takes no free disk space, because the menu is stored in the directory sectors (361-368 DEC)
- you don't have to prepare a special menu disk as the menu can be written to disk (or changed) after one or more programs have already been saved to disk
- NDOS doesn't need Basic or DOS and loads in less than 4 seconds
- the game of your choice loads by hitting only one single button
- NDOS is able to run up to 18 programs on one disk

When you save your just created binary files on one disk, add a menu with NDOS CONVERTER and you will be able to load your games as quick as possible!

SOME FINAL NOTES

The addresses of machine code programs in memory are found with this very simple Basic routine:

```
10 FOR X=8192 to 14000
20 ? "ADDRESS ";X;" = ";PEEK(X)
30 NEXT X
```

The numbers in line 10 are the same as the address numbers you want to examine (in decimal notation). So if you want to examine another part of memory, change these numbers accordingly. If you are searching for a special byte, for instance the first or the last byte of a file, then simply add this line between lines 20 and 30:

```
25 IF PEEK(X)=?? THEN STOP
```

The ?? stands for the byte you are looking for. When the routine stops and the last address does not contain the right byte (a program can hold many similar bytes) then just type CONT (Return) and the routine will continue.

The Run addresses of the programs in the table are the same as the addresses of the USR command in the last line of the Basic loader. Of course the USR command is in decimal and the Run address is in hexadecimal notation.

To check if the addresses you found are correct, you can act as follows:

- load a file in memory using the modified Basic loader (leaving out the USR command in the last line)
- go to DOS
- first create the binary file, as shown above
- stay in the DOS menu;
- type M (= Run at address), (Return)
- type in the Run address in Hex (Return)

The program should run now. If not, one or more addresses were wrong or were typed incorrectly. Sorry, but you have to try again then. If the program runs, you can press Reset. Most of the time you will return to the DOS menu.

By the way, you should have noticed the machine code programs by Bill Halsall almost all start at address $2000. DOS itself uses this same part of memory which is why the files can't be created or loaded using DOS, without a MEM.SAV on your disk.

If you've got a 130XE machine, or an XL with 128K or more, there should be no problem when a Ramdisk is available. DUP.SYS and MEM.SAV are then present in your Ramdisk. Using the NDOS menu to load these files will give no problems because DOS is not necessary.

In case you only want to use DOS to load a binary file into memory (without being run by DOS), then use L in the DOS menu, type in the filename and extension directly followed by /N (no spaces!) and hit return. You can then go to Basic and examine the file with the Basic routine shown before or you can test the Run address using option M of the DOS menu.

Well, good luck transferring your object code files to binary DOS files! Finally my thanks to Adrian Young (Aad de Jong) for typing in all of the game listings!!

TV BINGO

by Ed Hall

TV Bingo is a game with a history. It began one day when a couple of shifty-looking characters strolled into my store. I figured them for shoplifters right away. One guy wore a trenchcoat with a fedora pulled low over his forehead so you couldn't see his face. The other guy was a short little dude in a goose-down jacket that had seen better days. They got as far as the automotive section before I intercepted them.

"May I help you?" I asked politely.

The fellow in the trenchcoat lifted his head so that his eyes were no longer hidden by the brim of his hat. He said, *"We heard you sell computers."*

I felt my eyebrows shoot up. I could imagine these two filling their pockets at the nail bin, or sliding lengths of rope down the legs of their trousers. But computers? No way!

"Over there," I said cautiously. *"Between the plumbing supplies and the bib overalls."*

The little guy led the way. He had skinny legs that ended in greasy skidoo boots. He clomped down the aisle toward the computers, leaving smudge marks on the floor behind him.

I hurried after them. *"Did you have anything specific in mind?"*

The guy in the hat mumbled something. I caught the words 'case' and 'important'.

"I agree with you one-hundred-percent," I said eagerly. *"Some people are so concerned about a computer's innards they completely overlook the case. Big mistake. That's why I offer custom paint-jobs."*

They stopped in front of a standard XE with flames spray-painted along the sides. The little guy tapped the keyboard a few times, then nodded at the guy in the hat and said, *"This'll do."*

"A wise choice," I enthused, *"and economical too. The price is only – "*

The guy with the hat said, *"Whatever it is, we can't afford it. What we had in mind was, maybe we could just borrow it for a while."*

My mouth fell open. *"Borrow it?"*

"Let me introduce myself. I'm Dan Diamond, and this is my associate, Freddie Tapedeck. Perhaps you've heard of us?"

I shook my head.

"We're private investigators and we're working on a case. A big one. We're gonna blow the lid off one of the nastiest scams around. Trouble is, Freddie here needs a computer. You lend us one and we'll cut you in on this caper."

I frowned. Business hadn't exactly been booming lately, what with the recession and all. So I said, *"What's that work out to in dollars and cents?"*

Dan looked thoughtful. *"Well, since you're a businessman, you're probably not too interested in taking an IOU, right? You want cash on the barrelhead, or no deal. Am I right?"*

"Absolutely."

"Just as I thought. The only trouble is, me and Freddie are a little short of funds at the moment. So what we normally do in a situation like this, we pad our expenses a little. Tell me, how much do you usually charge for a rental?"

"Fifty bucks a day."

"You sure?" Dan asked with a wink. *"I'd have guessed at least seventy-five."*

"Er, right, that's what I meant to say. Seventy-five."

"Good. Now if we take you on as a partner, you can pay yourself $75 for each day Freddie has the computer. That's 50% more than you'd normally get. What do you say?"

I closed one eye and tried to imagine how that would look on my accounting ledger. Then I gave up and said, *"What's the case involve? Blackmail? Espionage? Drug-running?"*

Dan solemnly shook his head back and forth, then looked around furtively before leaning closer and whispering, *"Much bigger than that. We're talking bingo."*

At first my reaction was the same as yours: disbelief. Then they took me to smoke-filled bingo parlours which were indistinguishable from opium dens. I met people who made their living playing bingo, and others whose lives had been ruined by it. Soon it became clear that an entire sub-culture had sprung up around the game, and nowhere was this more evident than in the popularity of bingo-callers. The talent. Few could appear in public without being mobbed by autograph seekers, and all had the same glossy hair, white shoes, and thousand-watt smiles. Invariably yards of golden chain were looped around their necks, and often the arms of beautiful women.

BINGO WAS HIS NAME

It was not until Freddie gave me a brief history lesson that I came to understand how this insidious game had infected our society.

It had been created in India by a disgruntled vizier who, unable to tolerate his losses at chess, decided to modify the noble game to his own advantage. He began by reducing the size of a chessboard from 64 to 25 squares, and eliminating all pieces except pawns. When these changes failed to bring about the desired result, the vizier decided his only recourse was to completely remove the element of skill and replace it with luck. He did this by introducing a 75-sided die.

Centuries later the game turned up in the Holy Land at the time of the Crusades, and was carried back to Europe by a band of wily Jesuits, thus beginning the game's long association with the Church of Rome. Legend has it the game's name dates from this period. It seems a certain Pope was so smitten by the game that he ignored his favourite lapdog. So wounded was the beast that it exacted revenge by leaping upon the board and scattering the markers, then running off with the pontiff in hot pursuit, crying the mutt's name: "Bingo! Bingo!"

Early in this century the Mafioso introduced the game to America, where it became known as the 'numbers racket'. Later, a sanitized version appeared in Las Vegas under the name keno. In the 1960s go-go dancers in cages made a brief appearance in bingo halls, as well as a new wrinkle in game-play. Players were allowed to use the same card for more than one game, a variation which did not really catch on till the environmental movement became prominent. This form is known as go-go bingo or eco-bingo.

With the proliferation of state-run lotteries and computerized gambling machines, the next development was inevitable: tele-bingo. Who needs cards and markers and dabbers in the electronic age? Cable companies now invite us to hook up our computers to a TV set and use a joystick to play the game directly on the screen. Bingos are verified electronically by the cable company, where the entire operation is run by a computer program.

But here of course is where the scam comes in. Dan and Freddie suspected the software was crooked.

"We've got the program," Dan said, showing me a disk. *"All we need is a computer so we can examine the code and confirm our suspicions."*

I frowned. *"You don't strike me as a computer type."*

Dan laughed. *"You're right. I don't know a thing about computers. Freddie's the expert."* Freddie grinned at me. I noticed he was missing several teeth.

PROGRAM NOTES

When Freddie began to work, I realized I had under-estimated him. Not only was he determined to reverse-engineer the code, but he also wanted to track down the program's origins. It was real detective work, and not made any easier by the program's design. He muttered to himself continually as he worked, and at first I thought it was due to hunger, because he kept repeating the word 'spaghetti'. When I finally brought him a plate of the stuff, he nearly threw it at me. Seems he was referring to the unconscionably large number of GOTOs and GOSUBs in the program. Soon he began referring to the program's creator as 'Spaghetti Head'.

It didn't take long for him to discover that the whole thing was built around a very short bingo program from the January 1986 issue of ANTIC. But when he came to the P/M routine, he faltered.

'Tom," he muttered, his smudged fingers fluttering over the keyboard. *"This is Tom's work, I'm sure of it."*

But Tom who? The obvious answer was Tom Hudson and the P/M routine he had published in issue 10 of Analog. But after much hair-pulling Freddie discovered this was not the case. For some reason Tom Hudson's routine corrupted values which were stored in the array CARD( ).

Suddenly Freddie exclaimed, *'Got it! Tom Halfhill!"*

"The hobbit?" I asked.

"No, no, the editor of COMPUTE! magazine."

Freddie was right. Whoever the programmer was, he (or she) had used Tom Halfhill's "Atari P/M Graphics Toolkit" which appeared in the same great issue of COMPUTE! (March 1986) as "Atari Speedcalc." The routine is dead simple to use, and automatically looks after all that crazy mystical stuff, like clearing memory and lowering ramtop.

The biggest clue to the programmer's identity was in the snippet of digitized speech used by the program. It was facilitated by a device called Covox Voicemaster Junior. However, Freddie discovered that the actual code had been modified by Matt Ratcliff, as described in the the May 1989 issue of ANTIC. (Note: only disk-subscribers will be able to hear the scoundrel's voice.)

The part of the program that Freddie was most interested in was the random number generator. Its basic form is:

```
190 N=INT(RND(0)*75)+1
192 IF N=G(N) THEN 190
194 G(N)=N
```

You can try it out by erasing lines 176 and 182-188 from Listing 1, and replacing line 190 with the one shown above. The only problem with this simple approach is that, when there are only a few numbers remaining to be called, the program takes a while to find them, sometimes a couple of seconds or more. The reason this is a problem is that the joysticks can't be used while the program is selecting a number.

The programmer tried to get around this problem by keeping track of the numbers called in each of the five columns. When all 15 numbers in any column have been called, the program will no longer search for numbers in those columns (line 184). However, for some reason, the numbers seem to be generated in clusters. It was this characteristic which first alerted Dan and Freddie to the possibility that the code was crooked.

Freddie, being the hacker he is, quickly put together a routine which neatly solves both problems. Listing 2 randomly generates all 75 numbers BEFORE the game begins and stores them in the array G2( ). Then, during the game, the program simply calls up the next number from G2( ). The waiting time is virtually nil. The sole problem with Freddie's solution is that it adds significantly to the initialization period.

Players using this routine will still notice a slight interruption if they're using their joystick when a number is generated. However, most of this delay is due to the sound which accompanies the appearance of a new number. To further reduce the delay, delete GOSUB 108 from line 212.

Of course, Freddie's routine opens a thorny issue. Is such a routine ethical? What if it fell into the wrong hands? Unscrupulous people could easily subvert it to their own advantage.

FUNNY BUSINESS

Well, that's about it. I'm not sure what Dan and Freddie did with the evidence they unearthed. The last time I saw them, Dan was wearing a new trenchcoat and Freddie was driving the sportiest snowmobile you ever saw. At least they didn't stiff me; I made sure I paid myself for the computer rental.

I did hear something about them on the radio, though. Had to do with diamonds and cruise missiles. Seemed to be about 5 episodes totalling approximately 20 minutes in length. If you're interested, you can get an audio tape for $20.00 (to cover postage and handling) from:

CBC North
Box 160
Yellowknife, N.W.T.
Canada X1A 2N2
Attention: Dave Miller

Don't expect liner notes or fancy labels -- just a plain unmarked cassette in a brown-paper bag. With grease spots on it.

Me, I'm kinda glad I'm not mixed up with them any more. Dan and Freddie are a couple of bad apples, that's for sure. ●

THE LISTING

TV BINGO is complete and ready to run on this issue's disk. If you would like to type in the listing a printed copy can be obtained free of charge from New Atari User. Just ask for a copy from the usual address

HELP AT HAND

David Sargeant presents a neat system to give instant help screens with your Turbo Basic programs

An interesting aspect of programming on a Personal Computer is the availability to the user of on-line Help Screens. In this case, I am talking about the programming environment of Borland's C++, although there probably are others which I have not used. If you cannot remember the meaning or the syntax of a particular command you do not have to wade through the programming manual to find out. You just call up the Help system by pressing a certain combination of keys on the keyboard or by clicking on the mouse button a few times for pages of helpful details to be shown on the screen making learning a language much more user-friendly.

MEMORY LAPSE?

As far as programming in Atari BASIC is concerned I am reasonably confident, but Turbo BASIC is a different matter. The manual, if you can call it that, is of little use for finding helpful hints, so I have to keep referring to Page 6's Support disk. But what I really need is a scaled-down version of a system of Help Screens as I have mentioned above.

The Help Screens would need to be stored in the computer's memory so that they could be accessed at any time. The screen flipping technique outlined in previous issues of New Atari User would seem to be just what I require, so I have written a program with this in mind.

As part of the initialisation process, RAMTOP is altered to reserve space behind the screen RAM, the help pages are read from the disk file and stored here and the high byte of each page address together with the one for the new default screen are stored for later use. The low bytes are always 64 and do not need to be stored as well.

It is also necessary to devise some way of monitoring the keyboard so that the Help system can be called by a single keypress whenever I need it and for this I have found a Display List Interrupt to provide the most useful method. When the HELP key is pressed the Interrupt uses the internal index to copy the relevant high byte of those saved previously to the Display List and then this index is incremented or zeroed depending on the number of help pages available.

In this instance I have used three pages of help screens which are held in a straightforward Word Processor file, TURBO.TXT. For the DLI to function correctly it requires 4 high bytes (3 help screens plus one for the new default screen which are indexed 0-3) and 2 additional bytes for the number of pages in the system and the index itself. Page 6 is used to store the machine code for the DLI (63 bytes) and the Help system program bytes (6 bytes), the rest of the page of memory is clear so there is plenty of room to add more help screens if you want.

As a guide, my unmodified 800XL gives:

Address	Contents	Description
1599	3	Number of pages
1560	0-3	Index
1561	192	Page 1 high byte
1562	188	Page 2 high byte
1563	184	Page 3 high byte
1564	180	Editing screen

Now I can write or edit a Turbo BASIC program in the normal way and whenever I need reminding of a particular command I just call up my Help pages by pressing the HELP key. The pages are cycled through on each keypress until the normal editing screen reappears and I can continue where I left off.

PROGRAM VARIABLES USED

PAGES	Number of pages in the Help System
SCREEN	Temporary array for the high bytes
ADDR	Screen addresses
DL	Display List address
BUFFER	Input buffer
S_RAM	Number of bytes in Screen RAM
BYTES	Number of bytes to read into the input buffer
DLI_ADDR	Display List Interrupt address
T_ADDR	Table address of user bytes
I J	Loop counters
A	Temporary variable for data

```
LW 1 REM ****************************
CM 2 REM * TURBO BASIC HELP SCREENS *
VR 3 REM *           by             *
KD 4 REM *      DAVID SARGEANT      *
BA 5 REM * ------------------------ *
VF 6 REM * NEW ATARI USER - NOV '94 *
MC 7 REM ****************************
MM 8 REM
OO 100 ----------------------------
KG 110 EXEC INIT:END
OS 120 ----------------------------
OU 130 ----------------------------
GK 140 PROC INIT
SJ 150   PAGES=%3:POKE 106,PEEK(106)-(PAG
   ES*4):GRAPHICS %0
MZ 160   ? "    TURBO BASIC HELP SCREENS
   "
OI 170   DIM SCREEN(PAGES):SCREEN(%0)=PEE
   K(89):ADDR=DPEEK(88)+1024:DL=DPEEK(560
   )
TN 180   BUFFER=40000:S_RAM=960:BYTES=PAG
   ES*S_RAM:DLI_ADDR=1536:T_ADDR=DLI_ADDR
   +63
CQ 190   ----------------------------
BZ 200   ----------------------------
QT 210   # SET_SCREENS
RL 220   OPEN #1,4,0,"D:TURBO.TXT":BGET #
   %1,BUFFER,BYTES:CLOSE
PA 230   ? "              INSTALLING
   ":EXEC CONVERT
JH 240   FOR I=%1 TO PAGES
QL 250     MOVE BUFFER,ADDR,S_RAM:ADDR=AD
   DR+1024
RJ 260     BUFFER=BUFFER+S_RAM:SCREEN(I)=
   SCREEN(I-%1)+4
AK 270   NEXT I
CP 280   ----------------------------
CR 290   ----------------------------
OQ 300   # SET_DLI
TY 310   POKE T_ADDR,PAGES+%1:POKE T_ADDR
   +%1,%0
LN 320   FOR I=%0 TO PAGES:POKE T_ADDR+%2
   +I,SCREEN(I):NEXT I
NX 330   RESTORE #DLI_DATA:FOR I=%0 TO 62
   :READ A:POKE DLI_ADDR+I,A:NEXT I
ZL 340   POKE DL,PEEK(DL)+128:DPOKE 512,D
   LI_ADDR:POKE 54286,192:POKE 732,17
VV 350 ENDPROC
PC 360 ----------------------------
PE 370 ----------------------------
OJ 380 PROC CONVERT
UB 390   FOR J=BUFFER TO BUFFER+BYTES-%1
CP 400     A=PEEK(J):IF A<96 THEN A=A-32
LO 410     POKE J,A:NEXT J
VQ 420 ENDPROC
OX 430 ----------------------------
OZ 440 ----------------------------
JY 450 # DLI_DATA
YL 460 DATA 72,173,220,2,201,17,208,53,13
   8,72,152,72,173,48,2,133
UR 470 DATA 203,173,49,2,133,204,174,64,6
   ,189,65,6,160,5,145,203
EQ 480 DATA 238,64,6,173,64,6,24,205,63,6
   ,144,5,169,0,141,64
RR 490 DATA 6,169,0,141,220,2,141,10,212,
   104,168,104,170,104,64
OS 500 ----------------------------
```

5th TIME LUCKY?

Daniel Baverstock of Oasis Design looks at Atari's record so far and asks if they are going to make the same mistake with the Jaguar

With introduction of the Atari XL/XE systems came Atari's infamous marketing strategy. This has since been the downfall of every product they have ever released. You would have thought by now that they had learned their lesson.

GOODBYE XE and ST SUPPORT

After releasing the 65XE computer, the games system and the 130XE, as well as the XF551 drive into the market, Atari's support dwindled rapidly. It hit it's worst around the late 1980's. In fact Atari UK dropped the Atari 8-bit in favour of the Atari ST around this time. Although this was hardly welcomed by 8-bit owners, it was inevitable.

Many users dropped the 8-bit in favour of the ST series which seemed the way ahead. For a period, support for this exciting new ST was strong, from both software companies and Atari Corp. themselves. However, was it to last? I think not! Support for the ST went rapidly downhill, while the opposite happened for the Amiga series. Instead of games being written for the ST, games were converted from other formats, definitely a wrong move for Atari Corp.! Atari's support for the ST stopped around December 1993, again inevitable.

NO LYNX SUPPORT

Following the trend of the consoles that were appearing around 1990 came the Atari Lynx, a nice little gem of a handheld console that was badly let down by almost non-existent advertising and a lack of games. Games made available were mediocre to say the least. Qix and Joust were two of the games released. Earlier they had made their name on the Atari 8-bit. Good games they may have been, but this was not the way to promote and support a new console that had to compete with games like Sonic the Hedgehog on the Game Gear and Super Mario on Nintendo!

NO FALCON SUPPORT

Next came the announcement of a computer to equal the might of even the most powerful of PC home computers, the 32 bit Falcon 030. Talk about short lived! Although the specifications of this machine were truly amazing, especially in the sound and graphics departments, I never saw an advert on television anywhere, or a poster in a computer store, and only very few in ST magazines. Looking in many computer magazines I saw adverts for second hand Falcons for sale because software companies were not bringing out the software promised, and games were practically non-existent. I have never seen a Falcon in the shops nor any adverts supplying software. Another crowd of Atari freaks left in the lurch, as were their bank accounts.

This has been the case every time. Atari brings out a new product with great capabilities, and a promise of software support. Yet the software is just a rehash of other formats that do not even touch the machines specifications. In addition, they seem to forget that to sell they also have to advertise and supply the demand, acheived by actually having the computers available and at a reasonable price. I can remember my dilemma over buying a second hand Amiga or ST, and choosing an Amiga because of the vast amount of games software available. Comparing the sound of an ST soundtrack of a game like Lemmings to an Amiga version was like comparing a Spectrum to a synth keyboard or drum-machine. Where were the sampled sounds and the FX's? Many games ended up as just another conversion to the ST which made the computer look worst, when in fact it had so much more potential. It still has!

Many times Atari would announce price cuts or package deals, but by then the damage had already been done. Atari had a bad name in the gaming market. Sales went down as did the number of original companies supporting the ST until it was no longer profitable.

Almost instantly after the release of the Falcon, Atari found they did not have the capacity to produce both the Falcon and their brand new product, a super console, so production of the Falcon ceased. A round of applause for Atari, after all that effort and those paying customers!

SUPPORT FOR THE JAGUAR?

In 1993 came the grand announcement of Atari's first console for years, a super-console to beat all other consoles, the Jaguar! Packing a whopping great 64 bits of power, 16 MB of RAM, and cartridges with ROMs in excess of 400MB compressed, the Jaguar is tipped to bring Atari back on-line in the computing world! If all goes well an add on CD-ROM drive will be made available in early 1995.

But ... Atari surprisingly(!) ran into a spot of bother. They ran out of money! Quite a surprise since they hadn't yet started to advertise, nor had they made Jaguars openly available in England. In October it was announced that SEGA had decided to invest in Atari, producing games for the console. Sounds great doesn't it? Or does it? Sega themselves will be trying to push their new 32 bit CD based Saturn console soon so why would they help out Atari who have a more powerful machine? Surely the Jaguars commercial success would be a threat to SEGA? They already have a great slice of the computer industry, something they are not about to give up in a hurry? SEGA is allowing Atari to produce many of their winning titles. Rings a bell? Conversions of other formats to the Jaguar, just what happened on the 8-bit and ST computers.

Since 99% of all SEGA software is programmed for 16 bit machines, it makes no sense to again 'rehash' these games for a system that has four times the processing power, and has far greater sound and graphic capabilities. For example, a new Atari Formula 1 racing title for the Jaguar called 'Chequered Flag' out-processes even the arcade versions. It would not be possible to run this game on any other games machine. Alien vs Predator has been rated as 'worth buying a Jaguar for'. Games available at the moment include the acclaimed Tempest 2000 programmed by none other than Atari Guru Jeff Minter.

At the moment the Jaguar is in a very dodgy position. Originally priced at £200 including Cybermorph, a Star Wing clone, it is now £240. The absence of many games on the shelves to entice buyers is also a problem. Some buyers may also be reluctant to take the chance of buying just in case they will be let down again by Atari Corp. It's also coming up to Christmas, the best time to advertise, yet there are no adverts at all?

Sounds bad, but the worst is yet to come.

COMPETITION?

The Jaguar is under a great threat from the computer industry giant, Nintendo who are preparing to flood the market with what they are saying is the "worlds first 64-bit machine", the 'Ultra-64'. If Atari don't act soon, which is what they are notorious for not doing, then the Ultra-64 will unquestionably take over the market, leaving the Jaguar without a chance in hell!

With the presence of the 3DO from Panasonic and, in early 1995, the Sony Playstation, both 32-bit based CD multimedia machines, the Jaguar needs to get there first. Atari need to do something they have never done before, advertise NOW and advertise on a BIG SCALE! They need to make the price of the Jaguar around £210 - £220 and sell the games for around £30 - £40 pounds. The CD-ROM Drive needs to sell for around £120.

Games need to be written for the machine's specifications, and if conversions are to be done, these need to take advantage of these specifications. The Jaguar breaks new ground in computer gaming, and so should the games that are made for it. I would love to see a Flashback or Star Wars type game that took advantage of the superior graphics capabilities.

The Jaguar can display from a massive 16.7 million colours, and has incredible 3D polygon drawing capabilities, as well as it's stereo CD quality digital sound outputs. With all that memory and with the promise of more when the CD-ROM drive comes out, games should be out of this world! The Jaguar needs to be programmed to its full capacity. It's really not much point in buying a machine with so many specifications if they aren't to be used. You might as well buy a 16 bit machine!

In the end, it is in Atari's hands. Lets hope they do it right, after all it is fifth time lucky!

T-34

Just when you thought your 8-bit was lacking new software along come A.N.G. Software with another great game. T-34, a two player game, is basically a 'shoot your opponent before he shoots you' game, with each player controlling a T-34 tank, however this objective can prove far from easy. With the mountain ranges and winds to contend with, each move requires a little thought before making your shot.

T-34 has one of the best loading intros I've seen in a long while, well worth seeing. Once the intro has ended the options screen allows you to select various things including landscape, direction, wind, gravity and objects, though altering the latter seemed to do little to gameplay for some reason.

The main game screen is split about 50/50 horizontally, the top being the instruments while the bottom is the battle area. Between these is a prompts line (in English) for letting you know who's go it is plus sarcastic comments appearing from time to time to suggest you're taking too long to make a move. The comments vary, such as 'Are you still alive?', 'Yeah, shoot him' to my favourite 'Hasta la vista babe'. Now I wonder where they got that line from!

The instrument panel holds Power, for power behind shell fired, Angle to alter the angle of the gun turret, Fire to go to the battle sequence, below is a Flag, which once pressed by either player concedes that round. To the right are icons for scrolling the scenery and for moving your tank right or left. Before you alter the angle of your gun or power it's a good idea to see where your opponent is, as the only tank in view is the player about to go. This couldn't be simpler, just click onto the scenery icon up/down, left/right to see where he is. Movement is very smooth as the foreground and background scroll at different rates and a sense of 3-D is given. Now you have to judge the angle and power needed to carry your shell to successfully destroy your opponent.

- *Title:* **T-34**
- *Publisher:* **A.N.G. Software**
- *Supplier:* **Micro Discount**
- *Format:* **Disk**
- *Price:* **£5.95**

Once happy with it, clicking on the bomb icon will remove the instrument panel to reveal the whole scenario and after a sampled firing speech, your shell is launched. The screen scrolls with your shell, though it is not always visible depending on the terrain. You may have to fire up off the screen and wait for it to drop to see just how lucky you were first time. A miss can result in a variety of sampled crashes and bangs and will result in the instrument panel returning and your opponent having an attempt. A hit can result in various finishes, the tank being totally wiped out, bouncing before exploding, or the tank exploding leaving the driver standing somewhat stunned by the whole situation! On each hit a score screen is shown from where you continue or return to options to alter things slightly. Selecting windgives a whole new dimension to the game as your shell may need more or less power behind it, so as not to blow yourself up!

I counted four scenarios in total, City, City Ruins, Moon Surface and Jungle. Each one is well detailed and colourful including a graffiti clad wall in the City scene. There are plenty of sampled sounds and some quite amusing exploding finishes for the tanks. The only sound part missing from T-34 is a whistling sound as your shell falls back to earth, but all the same this has to be the best two player game since Megablast.

This review originally appeared in TWAUG Newsletter issue 12.

reviewed by Mark Fenwick

CLASSICS

HENRY'S HOUSE

Top of the list in this issue's classic reviews has to be Henry's House. I always used to avoid the 'budget' games, fearing that budget price meant budget quality. Fortunately, this assumption has been proved wrong time after time, but never more so than with Henry's House.

Henry's House was a release from Mastertronic back in 1987. The game stars you as the central character, Henry, having just taken a sip of something in your father's laboratory. This something has resulted in you being shrunk to only six inches in height! What a start to the day. To make matters worse, Henry has got himself stuck in the clothes cupboard and must find the key, and a way out to return to normal size.

You control Henry with a joystick plugged into port one. The routines used for player and object movement are excellent, with the animation of Henry and all other objects absolutely faultless. I sat playing this game for several hours, and really could not believe the quality, which surpassed most full price games in every aspect.

Gameplay takes place in eight different rooms within your father's castle (your father just happens to be a King!). Each screen is extremely well drawn, and shows a sharp sense of humour. For example, one room to contend with is the bathroom. Of the many obstacles to overcome, one of the most difficult is a gnashing set of teeth. In order to make things even harder than they already are, after a short while a huge toothbrush moves onto the screen and starts scrubbing the teeth. There are a great many obstacles to overcome if you are to beat the game, including flying toast in the kitchen, dangerous toys in the games room, savage sponges in the bathroom, and loose birds in the lounge to name but a few.

The game is extremely well implemented, and has some nice small touches such as well animated scenes of Henry walking between rooms after completing a level, which is accompanied by a snappy piece of music. I really can't recommend this game enough, especially when you consider the almost ludicrous price. Henry's House is Transdiskable, XL/XEMENU, standard autoboot read.

POLE POSITION

The cartridge reviewed this issue is Pole Position, designed by Namco Ltd., and manufactured under licence by Atari Inc. I believe Pole Position will run on any eight bit Atari, and certainly runs on all XL/XE models.

I doubt that anybody reading this review has never heard of Pole Position, which was at one time a smash hit in the arcades. Here, it is faithfully reproduced on our Atari micros, and the game is still as good today as it was when it was first released. I remember my father parting with nearly thirty pounds for this game several years ago. The old Atari 800 is still in the spare room at my parent's home, along with a 130XE and Pole Position. What more can I say than Pole Position is still in use after years and years of service!

Anyway, for those of you who don't own Pole Position, and who do not know the game in any great detail, here goes! Pole Position offers you the chance to sit in the seat of a professional race car driver. You may start the game by doing a practice run where you have the entire track to yourself. This feature allows you to get to know the track, and the handling of your car. After a few laps in the practice mode, you will probably be ready to race.

Before starting the race proper, you must decide which level of difficulty you require. The Malibu Grand Prix is the easiest, with the fewest obstacles to steer clear of. The Namco(!) Speedway is the intermediate course, and the Atari Grand Prix is the hardest course. Information about your present situation is shown on screen, with readouts for top score, your score, time remaining, lap number, speed, and lap time.

The next stage of the game is a qualifying lap. You are given 90 seconds in which to complete the lap, but must complete a lap within 73 seconds to qualify for the race itself. Depending on your qualifying lap time, you will be in one of eight positions on the grid (Pole Position if you make the qualifying lap in less than 58 seconds. If you hit another car during the lap, or if you run off the road and hit a sign your car will explode. You receive as many new cars as necessary, but lose time for each crash. Time is crucial during the race itself as you get 75 seconds to make a lap, and then get extended play if you complete the lap within the time allowed.

Your car is controlled by joystick. Forward accelerates in low gear, and higher speeds are reached by pulling back on the joystick, putting the car in high gear. The fire button acts as a brake. Appropriate use of gears and braking is essential in a successful race. Too much speed into a bend can cause skidding, which loses a great deal of speed and time. Optimum performance is difficult to achieve, especially when you are speeding into a bend whilst negotiating a number of other cars. There are a number of options available to the player. These include Practice, number of laps (up to 8), and difficulty. The race can be restarted with the reset key, and gameplay paused and resumed by the spacebar.

Pole Position is a very competitive game, and high scores can be achieved by the dedicated armchair racer. Points are allocated as follows: 50 points for each five metres travelled, and each car passed, plus 200 points for each second left on the clock at the end of the race. Large bonuses can also be gained by coming in fast on the qualifying lap (4000 for pole position). The game is not easy, though it is enjoyable for all skill levels. However, some hints I can offer are: make a fast start in qualifying and in the race, stay on the inside track as much as possible, and avoid skids.

I always play the game on the easy level, which I still find quite a challenge. With two harder levels, I can say with confidence that there is a good challenge here for all abilities. Pole Position is an excellent game, well worth the current five pounds asking price, and no collection can ever be complete without it. If you want to make a good investment in a game that will have lasting appeal, you couldn't do better than Pole Position.

Finally, as we all hate waiting for games to load, it is a joy to bung in the cartridge and get speeding!

reviewed by Mark Stinson

SAM DESIGNER

DGS have introduced another add-on module for existing users of the 80-column operating system Screen Aided Management - otherwise known as SAM. SAM DESIGNER is a drawing package and, like the SAM extras I reviewed in issue 68, is launched via the Access/Info option on SAM's main menu.

After loading, you're presented with an empty workspace and a small pointer that responds to a joystick or an ST mouse. The pointer is initially situated in freehand drawing mode - this means you can doodle by holding down the trigger or mouse button as you alter its position. To investigate SAM Designer's more absorbing features you should press the space bar to reveal the pictorial main menu. The first few icons here enable selection of alternative drawing modes such as line, rectangle, spray can, circle and fill. Most of the drawing tools you'd expect are included - and a few more besides. For example, it's possible to copy any rectangular section of a picture and paste it into a new position. You can also 'swap screens' to undo a previous action.

SAM Designer incorporates two unique functions. Firstly, you can load text from the SAM Texter module and place this into a pre-defined rectangle on any drawing. You can include directives to alter the character style, size or orientation while the program automatically takes care of word wrap. However, I'm not convinced this is really necessary since text can already be inserted by direct entry. If desired, you can load an alternative character set from disk, in the format supported (naturally) by SAM's Character Set Editor. The other unique function also involves character sets. There's a special type of set in which the characters are placed together to form icons. An example provided comprises various symbols for use in designing electronic circuit diagrams. With perseverance, you could create your own selection of specialist symbols.

SAM Designer upholds all of SAM's key principles: a point and click interface, integration with other SAM modules and promotion of an 'open' architecture. The last point means that if you are able to comprehend assembly language, you can make use of internal system routines to enhance the software's functionality - by adding extra printer drivers, for example.

SAM owners who feel the urge to draw should be delighted.

- ● *Title:* **SAM DESIGNER**
- ○ *Publisher:* **Power Per Post**
- ○ *Supplier:* **DGS**
- ○ *Format:* **Disk**
- ○ *Price:* **£6.95**

SEXVERSI

Digitised pictures of unclothed ladies and the classic board game Reversi (or Othello as the purists know it). Put them together and you have SEXVERSI, a recent offering from Mirage that's certain to appeal to someone (but who's going to admit it?). Don't forget kids, ensure your parents are safely tucked up in bed before reading further ...

The 'Versi' component is a straightforward version of the traditional game. Two players - human or computer operated - take turns to place colour-coded counters onto a grid of 64 squares. A counter may be placed at the end of a horizontal, vertical or diagonal line comprising one or more of the opponent's counters, but only if there is already a counter belonging to the current player positioned at the other end. Assuming there is, all of the opponent's counters in the line are 'flipped' and allocated to the current player. Eventually there are no free squares or no legal moves, so at this point the game ends. The winning player is the owner of the greatest number of counters.

So that's the game, but what about the other bit? The idea is that each time you win a round a small section of a steamy digitised photo (there are four poses to choose from) is revealed, but if you lose then a piece is covered up instead. If you win enough times, you get to see the entire picture. An obvious observation to make is that, much as the Atari is the best home computer of its era, its graphical capabilities are not ideally suited to displaying digitised pictures. The inevitable low quality result demands a fair amount of imagination to fill in the detail - I don't think the likes of Paul Raymond will be too concerned! The other point to mention is that the computer player is not very clever and makes the mistake of playing for maximum short term gain rather than strategic strength. If you head for the edge squares and go all out to take the corners, you'll have no problems winning every time. Maybe that's a bonus?

Incidentally, female players who are expecting a toggle option to suit their preference of viewing material will be disappointed. Enough said - I'll let you make up your own minds on this one!

- ● *Title:* **SEXVERSI**
- ○ *Publisher:* **Mirage**
- ○ *Supplier:* **Micro Discount**
- ○ *Format:* **Disk**
- ○ *Price:* **£6.95**

reviews by Paul Rixon

CONTRIBUTIONS

YOUR contributions are the lifeblood of New Atari User

All of your contributions are welcome but at the moment we need more

GAMES LISTINGS

BONUS PROGRAMS

However don't stop sending in other articles and programs. If something interests you, you can be sure it will interest someone else so write it up and send it in - NOW!

TUTORIAL TIME

by Ian Finlayson

DAISY-DOT II AN INTRODUCTION

As we have seen in the last two tutorials, Textpro is a competent word processor on which to prepare your masterpiece but once the creation is complete it is a bit disappointing to print it out on that old dot matrix printer. Everyone seems to have a laser printer these days and their high quality is no longer exceptional. The old Courier font definitely has a historic look.

There are two things that you can do to improve the situation. If you have a couple of hundred pounds to spare you could buy an inkjet printer but check that it is compatible with your Atari - you will probably need to ensure that it can emulate an Epson if you are to avoid difficulties. If your computing funds are not at this high level then read on - Daisy-Dot II could be your answer.

Daisy-Dot II (I will call it DDII from now on!) is available from Page 6 on disk number DS#21. Its documentation file starts by saying "DDII is a complete environment for printing near letter quality text with Epson and Star compatible printers", and this is a fair summary. DDII could be called a text processor (not a word processor) as it takes the text you have prepared and outputs it to your printer. The text is printed graphically so you are not limited to printer fonts, and DDII comes with several different fonts that you can experiment with. The illustration shows the fonts as they are printed when you use DDII to print out the DDII documentation. If this is not enough for you there is a font editor on the disk so you can modify the fonts which are supplied or even prepare completely new ones.

Playing around trying to create your own personal font is good fun, and it certainly teaches you that font designers are skilled craftsmen. At first it all seems simple, but the more you progress the more difficult is becomes. Great attention to detail is needed to make up a good looking font in which all the letters are legible and consistent with an overall style.

PREPARING YOUR TEXT

Before you start DDII you need to have some text prepared. Use your favourite word processor and keep the format simple although you can apply whichever format you want. When you have finished save your work and then prepare a print file. This is done by the "print to file" option of your word processor. In Textpro the procedure is as follows:

Press [CTRL] and P. The top line of the screen shows Print File> P:. Normally you would just hit [RETURN] to print, but this time you must backspace over the P: and replace it with D1:PRINTFIL.TXT, where D1: is the disk drive number and PRINTFIL.TXT is the name of the file you are going to use in DDII.

If you try to use the normal saved file you will probably hang up your printer because word processors embed special codes in the text which printers do not like. At the best you will get some odd things happening in your print out.

STARTING DDII

If you have an Epson MX III printer or an older STAR Gemini printer you will have to make a setup change to the DDII disk. Just restart your computer with a DOS disk, remove the write protect tab from the DDII disk and insert in in your drive. Use DOS rename (option E) to change the file named EPSON.CNF to EPSON (with no extender) for an Epson MX printer or STAR.CNF to STAR for a Star printer. DDII will now know of your specific printer. For any other Epson compatible printer the disk needs no modification.

Restart your computer with the DDII disk in place and DDII will boot up automatically. An opening screen is displayed and then the input screens for the overall document format. If this is the first time you have used DDII you may wish to print out the full documentation for future reference. There are 23 pages so make sure that you have plenty of paper! Now at the font prompt type ROMAN and at the filename prompt type DDIIDOC.1 - don't change any of the other settings. Now press [START] and the first 6 pages of the documentation will print out. When it is finished press [T] and type in DDIIDOC.2 and [START] for the next part of the documentation. The last two parts are on side B of the disk as DDIIDOC.3 and DDIIDOC.4.

SIMPLE USE OF DDII

In printing the documentation you have already learned how to load a [F]*ont* and load and print a [T]*ext* file. If you remember the name of the font and file just type them in as we did above. If not there is help at hand - just press the number corresponding to the disk drive where the file is (usually 1 or, if you are using a RAM disk, 8) and a list of files is displayed for you. Identify the name you want then press a key to return to the input screen and type the name in.

BORDERS.NLQ

BROADWAY.NLQ By B. Sheppard
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
NOPQRSTUVWXYZ[^_abcdefghijklmnopqrstuvwxyz|

GATSBY.NLQ By C. Gross
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
NOPQRSTUVWXYZ[^_abcdefghijklmnopqrstuvwxyz|

OHIO.NLQ
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
NOPQRSTUVWXYZ[^_abcdefghijklmnopqrstuvwxyz|

OLDENG.NLQ By C. Gross
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
NOPQRSTUVWXYZ[^_abcdefghijklmnopqrstuvwxyz|

OLDWEST.NLQ
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
NOPQRSTUVWXYZ[^_abcdefghijklmnopqrstuvwxyz|

A selection of the standard fonts available from Daisy Dot II - many more fonts are available on extra disks

MORE FEATURES

Now let us look at the other options that are available for global formatting of your document.

[D]*ensity*

Four settings are available. 1 is single density and gives wide text. 2 is double density - this is the "standard" setting and will be used most often. 3 is double draft density - similar to 2, but faster and not such high quality -good for draft printing. 4 is quadruple density which packs the text very tight. It only gives clear print with the plainer fonts.

[S]*pacing*

Changes the gap between letters. It can be adjusted between 0 and 20 and defaults to 2. A setting of 0 means letters just touch while at the other extreme 20 gives a spacing of about 1.5 character widths.

[A]*lignment*

Press [A] to cycle through the options. Text can be aligned left, right, centre, or justified. Justified text has extra space added evenly between words to make left and right margins straight.

[B]*oldface*

Boldface can be set on or off. Bold is achieved by printing two passes with a very small line feed in between, so it does slow printing down quite a bit.

[W]*ide*

Switches double wide printing on and off. The effect is similar to single density, but does not change the space between the letters.

[R]*ight margin*

The [R] key cycles through the available right margin settings. This can be anything from 0 to 5 inches in half inch increments. The datum is the right edge of 8.5 by 11 (American size) paper which is a bit wider than the European A4. This is not enough to ruin a layout, but is worth remembering if you use true A4 size paper in your printer.

[P]*age select*

Allows you to print all, odd or even pages. The odd and even selections allow recto verso printing where the even pages are printed on the back of the odd.

[L]*imits*

Allows the starting and ending pages to be set when you do not want to print a whole document.

[C]*opies*

You can print any number of copies from 1 to 99.

EXPERIMENT!

Now you can experiment with different settings for the overall format of your document. But, if you have printed out the documentation, you may ask how they changed the format in the middle of the document. This is done by embedding commands equivalent to the above into your text file. I will describe this how this is done in the next issue and also introduce the font utilities.

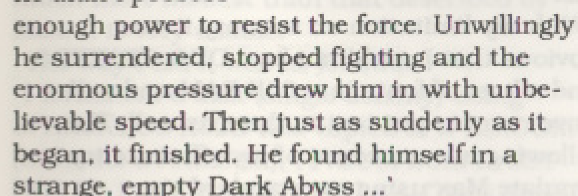
In the meanwhile if you use Daisy-Dot and have any useful tips or specific problems write and let me know. .

Oh! I nearly forgot - when you have finished with DDII [CTRL]+X will exit the program. You don't have to switch off to exit!

Write to Ian Finlayson at 60 Roundstone Crescent, East Preston, West Sussex BN16 1DQ

DARK ABYSS

'He'd flown for a long time, never imagining it could be so far to the constellation of Xanos. The peaceful, dark and quiet expanse didn't betray what was about to happen. He pulled the steering controls sharply, the craft shuddered but he didn't possess enough power to resist the force. Unwillingly he surrendered, stopped fighting and the enormous pressure drew him in with unbelievable speed. Then just as suddenly as it began, it finished. He found himself in a strange, empty Dark Abyss ...'



And on it goes to reveal the story behind the title, but don't get too drawn in by this unusually elaborate explanation. DARK ABYSS, from the Polish software house Mirage, is basically a good old fashioned vertical scroller. In other words, it's another excuse to fly over enemy territory, dodge through the cunningly assembled defences and shoot down anything that moves!

The game unfolds over a series of increasingly demanding levels - each unveiling a different combination of fixed obstacles, intermittent laser gates, 'pendulum' forces and other irritating problems. The levels are subdivided into several rounds, each involving a single pass of your joystick-controlled, twin-cannon firing space craft over the hazardous playfield. Your task is to progress without depleting the energy reserves through contact with alien matter. If and when you reach cosmic peace at the end of your journey, there's a short fanfare and you then head back in the opposite direction. The game isn't a constant scroller so at least you can tackle each situation at your own pace. The catch is that there's a limited time allowance on each stage.

- Title: **DARK ABYSS**
- Publisher: **Mirage**
- Supplier: **Micro Discount**
- Format: **Disk**
- Price: **£5.95**

Graphics are of good quality, although the artwork isn't as intricate as some other examples of this format. On the negative side, the variety of obstacle types is fairly limited and predictable, while your space craft could be improved by better animation. However, the musical effects are very good indeed - there are different jingles marking milestone events in the game.

Dark Abyss doesn't exceed the desirability of certain 'classic' scrollers I could mention in visual or playability terms, but many of these golden oldies are now almost impossible to obtain. Anyone who likes their entertainment to involve plenty of dodging, shooting and intense joystick action will find that Dark Abyss is much to their taste.

reviewed by Paul Rixon

Hints & Tips

DAISY DOT

FOR THE ADVANCED USER

John Bunting has some useful advice for using Daisy Dot with Page 6 Writer, a Ram-disk and SpartaDos

I am a subscriber to Tyne and Wear Atari User Group and have read the series in their newsletter by Max Gerum on TEXPRO and DAISY-DOT III. In it he states that he is able to load everything into RAMdisk and work entirely from there making all the procedures very much quicker. This set-up appealed to me but I do not have Max's one meg upgrade. I wrote an article explaining what I had achieved using my standard 130XE with DAISY-DOT III, PAGE 6 WRITER and SpartaDOS. This was published in TWAUG Newsletter Issue 7.

I afterwards realised the same principle could be applied to the PD DAISY-DOT II and tried this out with good effect. The two systems are very similar so I will start by repeating the TWAUG article (with apologies to anyone who has already read it) and at the end explain any differences.

MAXIMISING DAISY-DOT III

I use DAISY-DOT III quite a bit and ever since I read Max's excellent series on DAISY-DOT III and TEXTPRO and the way he is able to put everything into RAM, I've wanted to be able to do the same. So what's the problem?

The problem is, that Max has a 1 meg upgrade and I have a standard 130XE and a single, standard 1050, and with this Government (Petticoat) and in the current financial climate (retirement) there is not a snowball's chance in Hades of my equipment equalling his.

With my limitation on memory it was obvious that I could not load DD3, TEXTPRO and a host of fonts into 64K RAM and still have room to put text in there as well. The following is an account of my efforts to try to emulate Max using my standard rig.

The only way I could save on memory was to use a different, more compact, word-processor - but which? I had recently put SPEEDSCRIPT on to tape for the daughter of a friend who wished to practice her typing and I had used it to write a foreword to the instructions regarding cassette use. I was therefore aware that it was compact, (only 67 sectors long), surprisingly powerful for its size and not dissimilar to TEXTPRO in its basic functions, so I loaded it up and quickly discovered two problems. Pressing <SHIFT +> would not enable the backslash which is essential for DD3 and there was no facility to recall DOS. I also knew that PAGE 6 WRITER was very similar so I loaded that. (Could it be that SPEEDSCRIPT is the parent of both TEXTPRO and P6 WRITER?). Again no backslash but, although not documented, CONTROL Q gave the choice of returning to DOS.

I next tried my favourite, 1st Xlent WP, copying only the WORDPRO file, without HELP screens etc. This does support the backslash but without its ancillary files it would not recall DOS and at almost twice the length of SPEEDSCRIPT and P6 WRITER was running the memory banks rather short.

I left the problem for a while then thought I might see if the PP.MAC file from DD3 would work with P6 WRITER, but when I reloaded P6W I found (by accident) that if I first pressed ESC before the <SHIFT +> combination that the backslash was enabled. This is a small price to pay for the ability to put the whole lot into RAM, and even if the result is much more modest than that described by Max, it is very usable.

The way I did it was as follows:

I formatted a disk (single density) using SPARTADOS X32D and copied to it RD.COM (to create a RAMdisk), PP.COM from DAISY DOT III, PAGE 6 WRITER (the AUTORUN.SYS file from the boot disk), changing its name to WP.COM, and three fonts. A STARTUP.BAT file was created from the SPARTADOS 'D1:' screen by typing:

COPY E: D1:STARTUP.BAT <RETURN>

This gives a blank screen with the cursor at the top left position. The batch file reads:

```
RD D8:
COPY D1:PP.COM D8:
COPY D1:WP.COM D8:
COPY D1:*.NLQ D8:
D8:
WP
```

After typing the above, a <CONTROL 3> writes it to the disk - ensure the correct disk is in D1 at the time.

A perhaps more obvious way of producing the STARTUP.BAT would be from the word processor and saving it to the disk. This is also an easy way to edit the file should it ever be necessary.

When the disk is booted (with OPTION), the RAMdisk is created and the PP and WP files are loaded into RAM along with any fonts with the .NLQ extender, then the default drive is changed to D8 and WP.COM is loaded from there (almost instantly). At this stage, with the three fonts I used, there are 143 free sectors in the RAMdisk.

After typing in your text, SAVE it to D8 by pressing CONTROL L and entering 'D8:filename.ext'

If CONTROL M is pressed, a DIRectory of D1 is shown. If 8 is then pressed a DIRectory of D8 is shown and this becomes the default whenever CONTROL M is used.

Pressing CONTROL Q brings 'QUIT TO DOS Y/N' on the command line. A 'Y' will bring up the 'D8:'screen. At this point if PP<RETURN> is entered (No need for the .COM extender), then DD3 will load instantly and can be used to print out your masterpiece.

You may return to the word processor at any time by pressing CONTROL X to exit DD3 for DOS and typing WP<RETURN>.

Don't forget when typing text which is to be printed with DD3, to prefix font changes with 'D8:', The same applies when naming the starting font and the file to be printed at the start screen of DD3.

Using SPARTADOS with DD3 has a further bonus; it can be set up for automated printing and works as follows:

If you wish to print a file called 'TEXT' using the font 'POET', then instead of simply typing 'PP' to load DD3, type 'PP POET TEXT' and, providing all three items are available on the default drive, printing will take place automatically and you will be returned to DOS. This system can also be set up as a BATCH file which must be typed as shown (horizontal

line of print) and called, perhaps 'TEXT.BAT'. The transfer of this batch file to D8 can be arranged on the STARTUP.BAT and when it is required all that is necessary is to type '-TEXT' (don't forget the dash) when the the D8: screen is on. This procedure can be very useful if you have to make regular copies of the same document.

If there are any other duffers like me out there then I hope this article will be of benefit and save you the hassle of finding out the hard way what so many others find so easy.

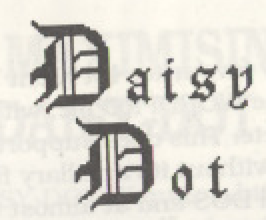
Oh! and by the way, don't forget to save your text to a floppy in your eagerness to try this system - as if anyone would...!

DOING IT WITH DAISY DOT II

The set-up for DAISY-DOT II is exactly the same except that instead of PP.COM use DDIIPP (on my disk this is the AUTORUN.SYS file) and I recommend that the name is changed to something short - 'DD2.COM' perhaps - for then all you will have to type to load it is 'DD2'. The STARTUP.BAT file can be as before but for this one change of filename.

Using DDII, P6W and three fonts there are 265 free sectors on the RAMdisk.

The automated printing feature will not work with DAISY-DOT II but everything else seems fine. There is a further bonus for DDII users; it requires files to be PRINTed to disk, so PRINT to the RAMdisk but SAVE in the normal way to floppy; this makes any subsequent editing much easier. Note however that any existing files previously PRINTed to disk will need to be SAVEd to the RAMdisk as they have already been formatted once.



My own experience is that with this system it is almost as quick (and certainly much better) to use DAISY-DOT as to print out straight from the word-processor.

Whilst mentioning word-processors; PAGE 6 WRITER may lack a small amount of the sophistication of the more expensive versions but it has more than is required for this application as most of the commands are generated for the print-processor.

The default margins on PAGE 6 WRITER are both 5 whereas DDII sets the right margin to 70 (or 10 from the right). It does not seem to matter however as DDII does not take up the full page width. The default page length on PAGE 6 WRITER is 69 (A4) so if you use 11" paper you will need to to reset this to 66 at the start of your text by typing <SELECT-p> which gives an inverse lower case 'p', followed BY 66.

My thanks to Bill Jackson up in Scotland for his assistance on another RAMdisk matter which led eventually to the birth of this idea.

AVAILABILITY

DAISY-DOT II is in the Page 6 Library. PAGE 6 WRITER, written by Phil Cardwell was originally published as a type-in program in issue 50 of New Atari User; it was also on the issue 50 disk. Both the disk and back-issue issue 50 disk. Both the disk and back-issue magazine are available from Page 6 at the usual address.

ROM CARTRIDGES

All brand new in original boxes, mostly shrink wrapped

ONE ON ONE

Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant replay and a shattering backboard! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands. Master the joystick moves, sharpen your timing and hone your reflexes. Jump! Shoot! Score!

OUR PRICE £6.00

BALLBLAZER

The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

OUR PRICE £6.00

US FOOTBALL

American Football is a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron

OUR PRICE £6.00

SUPER BREAKOUT

Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.

OUR PRICE £3.95

FIGHT NIGHT

Fight Night brings you all the thrills of the boxing ring as you face five of the most brutal fighters ever. Its five separate battles are total war with relentless action. The Boxing Constructor Set allows you and your opponent to create your own perfect boxers, selecting stamina, intellect and style. Train, spar and step into the ring to pit your perfect boxer against the computer or another opponent.

OUR PRICE £6.00

POLE POSITION

Everyone has heard of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have added features but Pole Position still retains its challenge after many years. One of those games that has exactly the right balance of game play and graphics to make it a classic that will last forever. If it is not in your collection, make amends now!

OUR PRICE £5.00

HARDBALL

All the thrills of American baseball can be yours on a summer afternoon in the ballpark. Sit behind home plate, along the left field line, down the right field line or join the manager in the dugout. Look over the pitcher's shoulder as he throws the next ball. You control all the action of the batsmen, pitchers and fielders as you try and battle your way to the top of the league. An exciting game for one or two players.

OUR PRICE £6.00

BASIC CARTRIDGE

Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.

OUR PRICE £2.95

DISKS ...

SILICON DREAMS

Taking the role of Kim Kimberley you are a leading participant in the colonisation of Eden, a planet prepared for human habitation by an advance guard of intelligent robots who battle with the native and highly aggressive fauna. In this highly structured and realistic environment you must move your mind into the twenty-third century. Silicon Dreams is three excellent graphics adventures - SNOWBALL, RETURN TO EDEN and THE WORM IN PARADISE from the masters, Level 9

OUR PRICE £5.00

ZORK 1

The Infocom classic and the adventure game that changed the way all future adventures were written. The Great Underground Empire of Zork is well documented by now and thousands of players have become addicts graduating to Infocom's more difficult adventures. Zork I is the ideal introductory level adventure for beginners or those with a little experience. If you have never ventured underground before now is the time to try, it's never been cheaper to expand your universe! Classic original Infocom packaging with excellent manual and a map.

OUR PRICE £2.95

DISKS ... DISKS ...

PANZER GRENADIERS

In this exciting solitaire wargame you make the decisions for a regiment of the elite armoured infantry attached to the Panzer Grenadiers. Your forces also include mortar, artillery, Panzer IV, Panther and Tiger units. The Russian enemy is directed by the computer which will fiercely challenge you with its own complement of infantry, tanks and anti-tank guns. Three levels of difficulty, joystick control, hi-res graphics.

OUR PRICE £5.00

LANCELOT

Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

OUR PRICE £5.00

RAMPAGE

It's rough and tumble all the way as you control three incredibly nasty characters which bear a remarkable resemblance to King Kong, Godzilla and Wolf-man through an orgy of destruction in Chicago, New York and San Francisco. You have 150 days of destruction in 50 different cities. Time for some revenge!

OUR PRICE £3.95

THE E FACTOR

The E factor represents the amount of time the energy sources on the planets in our galaxy will last. Many planets need emergency fuel capsules delivered if they are to survive. You must plot the interplanetary course and guide your craft through the quadrants filled with obstacles such as space mines, alien fighters and spinning asteroids. Can you complete a mission before another planet calls on your services?

OUR PRICE £3.00

DRUID

Another classic in which, as Last of the Great Druids, you wander through the Dungeons of Acamantor with your mighty Golem by your side on a quest to destroy the four demon princes. As you delve deeper into the dungeons you will find chests containing spells of formidable power to aid you and Pentograms of Life which will heal and revitalise you. Excellent graphics and superb gameplay make this one of the best arcade games.

OUR PRICE £3.95

GAUNTLET THE DEEPER DUNGEONS

If you have the original Gauntlet disk then you will know how good the game is and will want to extend play with the Deeper Dungeons. Over 500 new dungeons are here for you to explore. This is the way to revive your interest in Gauntlet and play on for many more hours or days! This is a data disk only and requires the original Gauntlet disk.

OUR PRICE £2.95

NEW YORK CITY

Welcome to The Big Apple. This hurried jungle of steel, concrete and glass bristles with fascinating sights and more than its share of danger. From the placid greenery of Central Park, there is no city in the world like New York, and boy are you about to find that out! As a visiting tourist you only have a limited time to see all the sights, but New York City has a little more excitement, a little more danger in store than a mere sightseeing trip to the zoo!

OUR PRICE £3.95

BALLBLAZER

The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

OUR PRICE £3.95

JUNO FIRST

A fast and furious space shoot 'em up translated from Konami's early arcade machine of the same name. Dozens of alien craft will attack from all sides and you must be quick to blast them away and earn your bonuses. If you feel that you are going to die then you can take the last resort and warp away through a kaleidoscope of colour. Similar to invaders, this fast shoot 'em up will appeal to any arcade game fanatic.

OUR PRICE £3.95

BLUE MAX

Everyone must have heard of this World War Two 3-D flying game. We no longer have the ROM cartridge but this classic can be yours on disk dirt cheap!

OUR PRICE £2.95

JUGGLES RAINBOW

A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition
allowing children to enjoy learning with colours and music and games they can create and play themselves

OUR PRICE £2.95

THE LIVING DAYLIGHTS

Control James Bond through eight fast and furious levels from Gibraltar to Afghanistan and you will encounter the SAS (friendly), the KGB (not so friendly) and enemy helicopters (very unfriendly!). Your are up against Brad Whittaker, international arms dealer and megalomaniac, Necros, his ruthless sidekick killer and Koshkov, the double dealing KGB General. You may fall in love with the beautiful Czech cellist Kara, but can you trust her?

OUR PRICE £2.95

CASSETTES at just 95p each!

180
A great darts challenge. Eight opponents, digitised speech, two player option. live joystick control, full matchplay scoring, a sense of humour, superb playability.

BOMB FUSION
A terrorist gang has planted bombs throughout the Sellerscale Nuclear Processing Plant and you have to go in and save the plant and possibly the Northern Hemisphere from destruction

CRYSTAL RAIDER
Fifty fiendish fatal patterns to be solved! Hours of mind and joystick bending entertainment for those who like their games to infuriate the parts other software cannot reach! Not a game more a series of logic problems to tax you

DESPATCH RIDER
Join the growing band of street demons who terrify the population of the big cities to get the parcels through. Plan your moves to make some money, but don't take too long - time is always short. Gain an instant macho rating and be a despatch rider with this simulation

FEUD
To win at Feud you must "out-spell" your rival Wizard Leanoric. In Kieke's herb garden you will find the ingredients for your spells but tread carefully as strange things can happen in this game of magic and mystery

FOOTBALL MANAGER
Features include Transfer Market; full League tables; injuries; save game facility; promotion and relegation; FA Cup matches; managerial rating; 4 divisions; as many seasons and you like; pick your team for each match and seven skill levels.

GHOSTBUSTERS
Has anybody seen a ghost? Matter of fact yes they have! At this very moment hundreds of ghosts are making their way to the infamous spook central. Only you can save the world from a disaster of biblical proportions.

GUN LAW
Four months of bloody alien attacks have taken their toll - all the surviving inhabitants have fled and arson attacks have been made on your weapon stores. You are left to fight alone against ruthless and bloodthirsty killers with just a single machine gun

HENRY'S HOUSE
Little Henry has shrunk. He must navigate his way through the royal household to find the cure. Avoiding all the obstacles in his path, from terrible toothbrushes, through pestiferous parrots and chefs chasing chickens, to a final encounter with the vicious vampire!

INVASION
Mobilize your units and prepare for battle. This all action space conflict requires skill, strategy and tactics. You must destroy the weather control station in order to win the battle but every move you make the enemy will counter, and they're waiting for you to slip up

KIKSTART
The ultimate off-road motorbike scramble simulator. Guide your rider carefully over the obstacles in this all action simulator for 1 player against the computer or 2 players against each other as well as the clock

KNOCKOUT BOXING
Challenge for the Heavyweight Championship of the World by boxing your way past nine progressively more skilful opponents. You will need speed and skill to deliver stomach punches, points scoring head jabs or deadly upper cuts. Your must keep your guard up or the referee will count you out.

LOS ANGELES SWAT
Rescue the hostages from the terrorist gangs holding out in West L.A. Clean up the streets. Blow away the bad guys and be a hero on network T.V.! Fail and you won't be coming back to watch it. All action joystick bending combat for those with the skill to survive!

MILK RACE
Cycling 1,000 miles is no mean feat - and you could end up feeling pretty exhausted by the time you've finished playing this superb race simulation designed with the Milk Race in mind

NINJA
Blasts the belt off all other martial arts games! That's all it says on the inlay! Someone sure reckons this is the best punching, kicking, ducking and diving game around

ON CUE
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PENGON
Can you save Penguin Willy from the ferocious mutant sea lions? Stun them by knocking them against the walls or crush them to a horrifying death with sliding ice blocks. High speed arcade action game, great graphics and music.

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TAIL OF BETA LYRAE
Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller

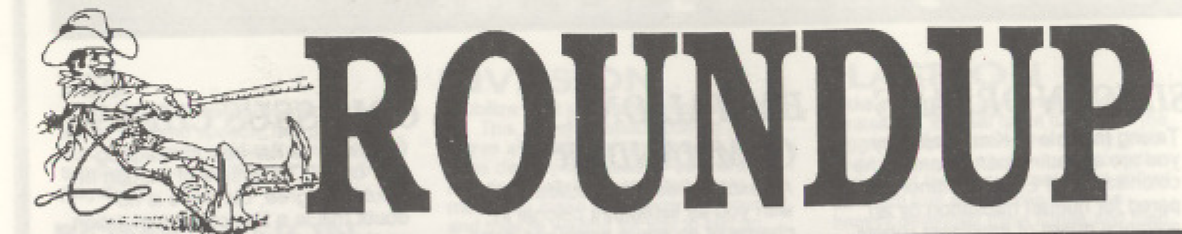
TWILIGHT WORLD
Enter the Twilight World. Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of the eleven dungeons defeating their fiendishly devious inhabitants along the way. A game from Atari themselves!

UNIVERSAL HERO
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ST PUBLIC DOMAIN ROUNDUP

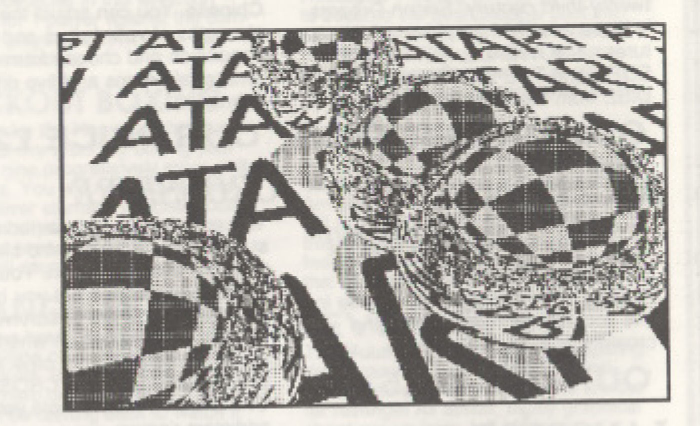


DEMOS! DEMOS! DEMOS!

Having examined utilities, applications, education and games in the first four instalments of ST Public Domain Roundup I thought it was about time I turned to that category of software known simply as the demo. The ST is blessed with many, many quality demos written by gifted programmers who could have easily utilized their talents to produce other forms of software.

I have chosen to examine five of the many impressive demos available from the Page 6 ST Library. They range from early classics to the latest Mega-demos.

by *Stuart Murray*



21 TODAY!

As far back as disk **ST21** you'll find some top quality demo software. ***SHINY BUBBLES*** shows four bubbles floating over a scrolling landscape of "ATARI" words. The bubbles smoothly weave in and out of each other at rapid speed. Switch off the title screen (which is superimposed over the bubbles) and the pace increases even more. The 1-9 keys can be used to control the speed; with 0 acting as a freeze frame. Settings 1-3 are very fast indeed! If you look closely at the bubbles you'll see that they reflect the scrolling landscape, and even the shadows they are creating!

The smooth scrolling, impressive speed and hypnotic effect of the bubbles make this a classic ST demo which has stood the test of time.

SPECTACULAR SCI-FI

CYBERSCAPE *(1MB required)* is a computer-generated sequence similar to those appearing today at theme-parks all over the world. Created with Antic's Cyber Studio it is a mini-movie which shows the travels of a humble 3.5" disk. Some atmospheric music and a brief title sequence create a good build-up to Cyberscape. Suddenly a standard 3.5" disk appears on a grid and transforms into a 3D spacecraft. The disk takes off and flies over a 3D landscape until it reaches a huge "ATARI". The letter "I" transforms into an upturned ST and the disk travels into the disk drive. The scene then switches to inside the ST and the disk 'docks' with the integrated circuit. It boosts the whole circuit and before you know it the screen is pulsating in glorious colour.

You really have to experience Cyberscape yourself to appreciate its full effect. The entire sequence is perhaps a little short, lasting only 120 seconds, but what there is of it is very impressive! Definitely one for fans of sci-fi!

INTO THE 1990'S...

SUMMONING OF THE SPAWN is a fine example of a standard-type graphics demo. The whole program is based around an arcade game in which you guide a spacecraft through a series of tunnels. The graphics and sound are as good as many budget commercial games. Look closely and you'll see eyeballs blinking at you and tongues appearing from the tunnel walls. You fly around a number of screens looking for a sign pointing towards a demo. Find one and you've found a part of Summoning of the Spawn.

I found eight parts in all. In these you'll find most of the standard characteristics of a good graphics demo: impressive artwork, long scrolling messages, great music, graphic equalizers, pulsating colours, etc., etc. If you're a demo freak, you'll like Summoning of the Spawn. The scrollers will take you hours to read (I liked the story of the battle with a possessed bed). The music has been hacked from a variety of sources. The Mega Music Screen includes the excellent tune from Turrican and the Assault on Precinct 13 music from Xenon 2.

There's nothing original about Summoning of the Spawn. It is simply a very good example of what demos are all about. Watch your eyes don't go square reading those scrollers!

WOT A DEMO!

After experiencing Summoning of the Spawn you'll be ready for what can only be described as one of the best demos on the ST. ***OOH CRIKEY WOT A SCORCHER*** begins with a beautiful title screen showing a desert island. The artwork has a wonderful gritty look to it which gives the overall appearance of a commercial title screen. Next up is a swirling starfield and some atmospheric digitized music (which just cries out to be plugged into your sound system). Text then comes flying at you in a colourful candy-type font. From here you move onto the Fractal Main Menu. This is where the fun begins. Just like in Summoning of the Spawn, you enter each part of Ooh Crikey Wot a Scorcher by playing a game and looking for entrances to the various parts. The concept may be similar but Ooh Crikey Wot a Scorcher lifts it onto a new plateau.

The Fractal Main Menu is presented as the cockpit to a futuristic aircraft. The bottom quarter of the screen shows, in impressive detail, your altitude, speed, scanner, distance from next target, message bar, etc. The rest of the screen shows a cockpit view from just behind your aircraft. It surveys a panoramic landscape of mountains and rivers drawn in solid colour vectors. You pilot your aircraft by joystick or keyboard. The speed and altitude can be easily controlled and before you know it you'll find yourself zooming over the 3D landscape. The scrolling is very smooth and gives you the impression that you are playing a quality commercial game. Hit Enter and you activate Turbo Mode - very fast! The objective is to seek and locate landing pads to the various parts of the demo. These are gold and grey rectangles which are strategically placed throughout the landscape.

Check your scanner at all times because it's not only the mountains you have to look out for - there are also

some high walls and structures which can prove to be very dangerous. Hit a mountain or wall and your ship explodes into tiny pieces. You then see yourself spinning through the air and bouncing on the ground. Great stuff! After your ship explodes you return to the previous landing pad. Once your have located a landing pad you must slow down and land on it. Press your button and you enter a part of the demo. There are seven parts and an expansion module for any future releases.

Each part is of supreme quality with humour used to good effect. For instance, the first part is "Go Ahead Make My Bed (The Lost Boys Chainsaw Massacre)". Bloody and most entertaining! The second part is titled in German (I just call it "Zonk"). It is an amazing music video to a techno soundtrack. The images come at you fast and furiously!

All seven parts are excellent! Look out for "Your Mind is my Ashtray" which features a large multi-colour scroller which comes at you from all directions spinning each individual letter. Watch you don't hurt your neck reading this one! The title screens to each part are superbly drawn - I especially liked the cloaked robot in "A Brief History of Time".

The music is wonderful throughout! It has atmosphere, pace and intensity. There are scrollers, meteors, waveforms, balls, bubbles, cylinders, starfields, etc. etc. All are programmed to a very high quality.

Ooh Crikey Wot a Scorcher is exactly that!

THINGS NOT TO DO!

If you're looking for a demo with a difference then check out ***THINGS NOT TO DO!*** It features eight silly animations warning you of, yes, you guessed it, things not to do.

The intro sequence is excellent. Colourful text, starfields and digitized music create a real movie-type feel to the demo. The eight animations are very funny - if you like violent, alternative humour! They begin on the mild side with a warning not to try and break too many karate slates when using your head. The character hits his head on a pile of slates, breaks half of them and then collapses with blood gushing from his head. Soon you'll find yourself being warned "Do not let someone assassinate you... because it hurts!" A target wings its way across the screen, locks on to you and... splat!

This demo is definitely not for the conservative computer user! In it you'll see machine guns and chainsaws along with lots of blood. I found this cartoon-type violence to be refreshing and fun to watch. In between each animation you take a trip back into the main demo. There are credits, scrollers, messages, contact addresses, etc. presented with 3D starfields, beautiful fonts and some superb music!

Things Not to Do! smoothly cruises along with each change in the action timed to perfection. It looks so good that you could be forgiven for thinking it was an animation feature on late-night television.

Gory fun with slick presentation. Channel 4 would be proud of this one!

ROUNDUP RATINGS:

ST601	Ooh Crikey Wot a Scorcher	92%
ST569	Things Not to Do	- 85%
ST439	Cyberscape (1MB)	- 74%
ST21	Shiny Bubbles	- 72%
ST566	Summoning of the Spawn	- 71%

All disks are available from the PAGE 6 ST Library - check the latest catalogue or updates or phone 0785 213928 for further information

MAKING MUSIC

with John S Davison

MIDI Basics Synchronisation

It's taken us a long time to get this far into MIDI - I just hope you're all still with me. We ended last time by discussing how System Real Time messages allow several sequencers to be synchronised together using the idea of timing clocks and master and slave devices. I also mentioned the MIDI Song Position Pointer, but didn't explain its purpose, so let's kick off with this topic now.

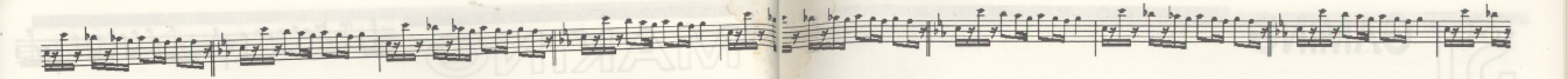
The Song Position Pointer (SPP) belongs to yet another class of MIDI messages, this time known as System Common. Other messages in the class include such items as Song Select for choosing between multiple songs held in the instrument; and Tune Request for instructing instruments to tune themselves to their reference frequencies (no longer necessary on modern digital instruments), but we needn't concern ourselves further with these. SPPs are used for setting a starting point anywhere within a song, which doesn't sound much of a deal until you know the context in which it's used.

Imagine you have a sequencer running on an ST driving an attached synthesiser and a separate drum machine. The drum machine also has a built-in sequencer on which the song's drum track has been built, so you set up the ST as the master and the drum machine as the slave so the two will run in perfect synchronisation when you start the ST's sequencer. This is fine if you only ever need to start from the beginning of the song, or perhaps pause part way through then subsequently continue on from that point. But what happens if you need to rehearse a given section of the song, say 8 bars of the second chorus? You'll find you not only have to position the ST's sequencer to the required point in the song, but also do the same for the drum machine's sequencer. This gets very tedious and error prone after you've done it a few times, and the tedium increases exponentially as you add more slaved devices into the system. What's needed is some form of positional information recorded within the MIDI message stream, which can be broadcast by the master to tell all the slaves exactly what point in the song has been reached so they can all line themselves up on the same position. And that's exactly what SPP provides.

MIDI BEAT

Every sixth pulse of the MIDI clock is called a MIDI Beat, and each beat has an SPP message associated with it. Each message is numbered consecutively upwards from zero, using its two data bytes as a counter to hold values from 0-16,383. These appear at regular six clock pulse intervals throughout the song, so as the song plays it continually sends out positional information on where it's got to. If you now stop the master and reposition the sequencer to another part of the song the new position information is broadcast and the slaves automatically reposition to the same point. When you tell the master to continue again the slaves all start playing from the correct place - untouched by human hand! There's one small snag though. Not all MIDI kit can handle SPPs, and those that do sometimes handle them in slightly different ways, so if this feature is important to you make sure the MIDI software and hardware you buy can support it, and in the way you expect.

Most serious MIDI users also have a tape recorder somewhere in their setup, so they can record their creations onto cassette for



ease of distribution to friends, and dare I say it, even to people willing to pay MONEY for the music. Often this will be a multi-track recorder having four tracks or more, to allow acoustic instrument or vocal sounds to be added to the electronically synthesised material. Such recorders were once only found in professional recording studios, but versions using cassette tape can now be bought new from about £200. For this price you also get a built-in mixing console, admittedly very basic, but with enough facilities to allow you to do simple mixes of the material recorded on the four tracks.

The simplest way of using equipment of this type usually involves building up backing tracks using only MIDI and the synthesisers, then recording the results onto one or more tape tracks. Work with the MIDI gear is then complete, and the musician can add any acoustic tracks he wishes (for example guitar, lead vocal, and backing vocals) direct to the tape using only the multi-track recorder and a microphone. Once this has been done, he can then combine the tracks onto a standard stereo cassette tape (for playing on an ordinary hi-fi tape deck, Walkman, etc.) using the recorder's built-in mixer and a separate stereo cassette recorder. However, there comes a point where the musician's ideas outstrip his recording equipment's capabilities, and this usually manifests itself as a shortage of tape tracks. There's a universal law governing this which says however many tracks you've got, you always seem to need at least one more. Obtaining them can be very expensive as it usually means upgrading to a new recorder, for example from a four track machine to one with eight tracks. However, there's a way MIDI may be able to help at a relatively low additional cost.

SYNC BOX

We've already seen that it's possible to synchronise together several MIDI sequencers. Well, you can also extend the concept to cover the multi-track recorder. You usually have to sacrifice one of the recording tracks to do this, but it does mean there's no need to record any of the MIDI sounds onto the multi-track tape at all, so you can use the freed up tracks for something else. It requires the use of an extra piece of equipment known as a "sync box". These come in varying levels of sophistication, from the cheap and cheerful costing from well under £100 to professional level kit costing thousands. Their purpose is to record reference timing signals onto a tape track, then on playback convert them into synchronisation signals that MIDI equipment can understand and react to.

The simplest form uses the equivalent of MIDI clock pulses recorded on the tape using a technique called Frequency Shift Keying (FSK), which uses two different audio tones to represent the clock pulses. One track of the tape, usually one physically nearest the edge, is nominated as the "sync track", and pulses generated by the sync box are recorded along it - a process known as "striping" the tape. This then becomes the master timing reference. The tape may then be played back with the output from the sync track routed into the sync box, which converts the audio tone pulses into MIDI clock pulses, which in turn may then be used for driving an attached sequencer. This sequencer is therefore a slave to the TAPE master, rather than to another sequencer.

As with linked sequencers, it becomes very tiresome if you want to fast forward or rewind the tape to another point within the song. You have to manually set the sequencer to the identical position also, but this time you have no bar/beat/pulse readout from the tape to help you (as you would have with a sequencer), so it's almost impossible to do accurately anyway. The problem is solved in the same way as before, using SPPs. The latest sync boxes use what's known as "Smart FSK", which records SPPs on tape along with the clock pulses. Using these, if you fast forward or rewind the tape then start it playing again, the first SPP encountered will be broadcast to any attached sequencers and cause them to immediately position themselves to the same point and play from there, locked in sync with the tape.

VIRTUAL TRACKS

Using the above system you can use the tape to drive your sequencer, and record as many sequencer tracks as you wish. Although they reside inside the sequencer they can now be treated almost like logical extensions of the multi-track tape, as fast forwarding or rewinding the tape produces the same effect on the sequencer tracks. For this reason they're often known as "virtual tracks". You can now use the "real" tape tracks to record acoustic material and play it back in exact sync with the sequencer's "virtual" tracks. At mixdown time you mix the tape tracks in the usual way, but now you also need to feed in the sounds from the virtual tracks, i.e. sounds produced by your synthesiser, drum machine, and whatever other MIDI sound sources you're using. This requires extra input channels on your mixer if you have them, or the use of a separate, inexpensive "sub-mixer". You can buy the latter for about £30, a small price to pay for the extra capabilities this method of working can give you.

We've only covered the "amateur" tape sync system above. The more professional (and expensive!) system is that originally produced for the Society of Motion Picture and Television Engineers for use with film and video soundtracks, known as SMPTE (pronounced "simpty"). This actually records a series of high resolution timecodes (in hours/minutes/seconds/frames format) along the length of the tape, rather than pulses and SPPs. Many of the top class sequencers on the Atari ST such as Notator and Cubase also support this, usually via accessory SMPTE sync boxes produced by the software suppliers.

SMPTE is much more flexible than FSK, but of course you have to pay for this. An extension to the MIDI standard known as MIDI Time Code (MTC) has helped reduce the cost, but we'll be covering this in the next issue when we look at how MIDI has a built-in provision for "futureproofing", which allows new extensions to be added to the MIDI standard when required. We'll also look at how the thorny problem of MIDI data file compatibility was tackled, to enable sequencers from different manufacturers to read each other's data files.

SENSIBLE SOCCER

European Champions 1992/3 Season Edition

OLE .. OLE .. OLE .. OLE .. OLE .. OLE!!

Football fanatic Nic Bavington may have found the ultimate soccer game for the ST

You've seen the pitch, you've seen the world cup and you've seen the tears. Now it's time to play the game. Sensible Soccer is thought by many to be the football game to end all football games, the Jeff Hurst of Soccer games if you will.

The game reviewed is the European Championship 1992/3 Season Edition. It features 100 European teams, Russia, Croatia and Latvia in the European Cup, Leeds United in Europe, Platt at Juventus, red and yellow cards, suspensions and enhanced goalkeepers (as opposed to the ones that stand and watch the ball go in the back of the net) and more. OK this may seem old hat nowadays but it still doesn't detract from the sheer playability of the game.

Opening the box reveals two disks and a thick and imposing manual only usually found in Microprose games. Fortunately the manual actually has four different language versions of the instructions and is in fact a light and humorous read that will provide you with everything that is necessary to play while fully understanding the game. As always you can the play the game without reading the manual but you won't the most out of it.

BEYOND THE F.A.

You begin by selecting the team that you want to be, the formation to be played and the players in the side. The teams are the normal home leagues and international teams but you can also load and save any of these leagues with the necessary name or strip changes if you wish to keep them up to date. You can also load in custom teams and change and play as them as you would with the normal teams. Some of these include such teams as Farmyard, with Friendly 12 Bore wearing the number 10 shirt or Old Ladies Menu with Nice Piece of Cake and Nice Piece of Beef. This can make for some weird match reports such as James Brown of the Soul Stars scoring with a scorching header.



All the normal tournaments and cups are here including the normal off the wall Sensible tournaments such as the Turkey Tournament and Wobbly Cup, all using the normal rules but with the custom teams that adds a nice twist.

There are a few new features in this edition (wouldn't be a new release without them really would it). The new back pass rule is in effect, as are red and yellow cards which are directly proportional to amount of suspension that a player will get. You can also enter the World Cup qualifiers and the European Cup has also been changed so that the teams now enter two groups of four teams after the first round who play each other twice.

NO WHISTLE YET!

Before you set foot on the pitch you must first select your team players, their positions and the home and away kit. All of this is done quite easily with the joystick and a fire button and is very self explanatory. You can also look at the opposition if that helps. You can set the time of matches, whether you have auto replay on/off, music on/off (done by Captain Sensible), autosaving of goals as match highlights to be viewed later and the selection of seasonal weather that changes as leagues and competitions progress. The waether is appropriate to the month in which the game is played which can mean that games played in January will, more than likely, have a muddy pitch and will affect play accordingly.

PEEEEP!

Once the options have been chosen it is onto the pitch and the game proper. During the game your players are represented by tiny figures that, although small have a tremendous amount of detail packed into them. They can run, intercept, perform sliding tackles, kick it away and do brilliant headers and all of these are possible when off the ball. On the ball you can dribble, pass and kick. Kicking is a fairly complicated procedure, that can be taken as the straight forward 'point and kick' effort of other soccer games or, by consulting the manual, turned into an art form. The ball, once kicked can be bent, lobbed and bombed by the frantic jitterings of the joystick.

You get corner kicks, throw ins, free kicks and penalties which are controlled by the

player pointing the joystick in the direction which he wants the ball to go. The kicks can all be bent and lobbed. The goal keepers have been improved from the first game in which they simply watched the ball go pass them in most cases, but this time they leap and bound like good 'uns.

The Manager plays an important part in the game in that you can call the bench up at any time and substitute a player who will run on replace the man on the pitch who runs off and sits on the bench.

PURE FOOTBALL

There's no flash animation or unnecessary jiggery pokery going on in this game, it simply relies on the immense gameplay the game has. Sensible Soccer knocks games like Goal! and Kick Off 2 into a cocked hat as can be confirmed by my brother and I as we battled for control of the ball in the outside of the area amid grunts and gasps of "OOOOH!" "AAGH". This game is just soooooooo playable! This is one that will keep coming back many times and has just come out again for the World Cup with all of the teams and stats bang up to date.

The graphics of the players and supporting screens are really good. The players slide, jump for headers and tumble after a tackle brilliantly. The overall effect of these little guys ploughing around the field with the ball flying about willy nilly and the fact that playing with a friend is not a necessity but greatly enhances gameplay, is absolutely superb. This is a game that has stood the tide of overly produced games with fancy graphics that just don't do anything for the game at all. No names mentioned!

The sound in the menu screens is a nice jaunty piece of chip music from Captain Sensible which, if not to your taste, can be turned off. The sound throughout the playing section of the game is not that impressive as compared to the PC and Amiga versions which feature sampled crowd chants and gasps along with a sampled whistle but none of these exist on the ST. The crowd is in fact a consistent roar that changes to a crude gasp when you come close and increases when you get a goal.

PLAY FOREVER!

Playability and lastability of this game are off the scale. This is simply the best game of its kind on the market today in any of its many incarnations. The game takes just two minutes to get to grips with and then you are away. The Passing system is so simple that you'll be constructing amazing set-ups and brilliant executions in no time at all. It really does feel like real soccer, so real in fact that the players end up oooh-ing and aaaagh-ing and pulling silly faces. Sensible Soccer has this quality in bucket loads. This game will never die and will outlast all of the others by many years, especially by the use of the two players option that will mean that it is dragged out of the cupboard a fair few times.

Well what can I say that hasn't already been said, Brian? Well its the best soccer game in the world which will only be beaten by a game written by an absolute genius (come on Jeff Minter, prove me right!) and it will move into the video game all time top ten. Not a lot more can be said about a game as perfect as this. Suffice to say that if you haven't got a copy of this then you are mad!!!!!!

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FOR SALE

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130XE SYSTEM: 130XE plus 1050 disk drive; over 150 games and utilities inc. Mini Office II, Replay System, AtariWriter, Mercenary, Alternate Reality I and II, Karateka and lots more; over 50 PD disks. Complete sets of Atari User and Page 6 magazines, all in binders. All in excellent condition. £150 o.n.o. for the lot, no splits. Phone (0494) 763774 (Bucks)

HARDWARE ETC.: Printer 1029, GC, £55; 130XE, GC, £20; 1020 Printer/Plotter £1; 1050 disk drive, £40; 1010 recorder, £5; 1027 Printer, GC, spare ribbon etc., £30. All PSU leads etc. included. Magazines - Antic, Analog, Monitor, Nugget, early Page 6. Tapes, books, disks. Phone for lists. Sensible offer for all considered. Tel. Bromley 0181 4608984 or Rainham 01634 375128

XE SYSTEM: 65XE, 1050 disk drive with write protect switch, 1029 printer with paper, Touch Tablet, joystick, loads of disks, magazines, manuals. Also B/W TV. Bargain at £150 o.n.o. Tel. Andy on 0843 226703 between 3pm and 5.30 pm

800XL SYSTEM: 800XL, 1027 printer (needs new characters), 1050 disk drive, DOS 2.5, joysticks, Page 6 disks, 8 ROMs, 85 games/applications on cassette, Mini Office II, Transdisk IV, XC11 cassette deck. £100 o.n.o. Tel. (0344) 50828

FOR SALE

LARGE SYSTEM: 130XE, 800XL, 1029 printer, Grafix AT Interface, 1010 and XC12 recorders, 2 x 1050 disk drives, 1050 disk drive with US Doubler and W/P switch, Green Monitor and cable. Over £100 of original disks, over 50 cassettes, 2 ROMs and 8 books inc. Mapping The Atari. Complete Atari User, 100's Antic, Analog, Page 6, New Atari User etc. Loads of ref. manuals. 200+ disks in boxes. All leads and joysticks. Offers to Clark on 091 3710555. May split or swap for SNES and large games collection. Buyer collects.

WANTED

BC GAMES: BC's QUEST game on tape or disk. Also other 'BC Quest' games (e.g. BC's Quest For Tyres). Contact Francis Byrne, Ballymacfadden, Kilcar, Co. Donegal, Ireland

CONTACT - FREE OR NOT?

The Contact column has been running for many years as a service for readers and we have not charged for entries in all that time. Last issue we decided to introduce a charge, partly to generate some income but mainly to restrict the number of entries which was getting out of hand. It certainly did that! In fact it has almost killed the Contact page stone dead! Only a couple of this issue's notices are paid, as the others came in before the last issue went out.

We still believe that Contact is a valuable service to our readers and we don't want to drop it so we'll try it another way round. ***ALL ENTRIES WILL BE FREE*** *but we cannot guarantee that an entry will appear.* FOR SALE and WANTED entries will be handled in order of receipt and once the column is full any remaining entries will be ignored. PEN PALS/HELP entries will always be included but don't try and use this heading for a wanted ad., it won't work! Entries will not be carried forward so if your entry does not appear you will have to try again for the next issue, but do it quickly or you may be disappointed again.

Send your entries to
CONTACT, PAGE 6 PUBLISHING, P.O. BOX 54, STAFFORD, ST16 1DR

Try and keep your entries as short as possible so that others get a chance. Extremely long entries may be heavily edited or ignored.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP